UNIVERSITY OF ALBERTA

Inkhomo Yinsila YemaSwati: Cattle Ownership, History, Culture, and the Environmental Question on Swazi Nation Land.

By

Funekile G. Mdluli

A Thesis

Submitted to the Faculty of Graduate Studies and Research
In Partial Fulfilment of the Requirements for the Degree of **Doctor of Philosophy**

In

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a Thesis entitled **"*Inkhomo Yinsila YemaSwati*: Cattle, History, Culture, and the Environmental Question on Swazi Nation Land"** submitted by Funekile Gladness Mdluli in partial fulfilment of the requirements for the degree of **Doctor of Philosophy** in **Rural Sociology**.

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Dedication

To My Mother
Emmelina Mgotjweni Ginindza

Abstract

The prevailing wisdom in Swaziland maintains that overstocking and overgrazing have caused the degradation of the communal rangelands. Colonial and post-colonial governments have addressed this situation by encouraging Swazi people to keep fewer numbers of younger cattle, commensurate with the carrying capacity of the range, without much success.

This study attempted to answer two major questions. The first question was why Swazi people keep cattle. Two reasons emerged from the analysis. First, Swazi people do not rear cattle as farm products along commercial ranching lines. Instead, they harvest flow products and services during the life of the cattle they keep. Cattle sales and slaughter are end products, not the main reason why cattle are kept. Secondly, cattle ownership has deep symbolical and historical meanings that are intrinsic to Swazi culture and identity. For these reasons, Swazi people keep cattle for much longer--beyond the age of 24 months, and in higher numbers than technical experts advise.

The second question was to find out why cattle are sold or retained in the indigenous cattle rearing system. Characteristics of both the herd--such as herdsize and sex of animals kept-- and of the homesteads keeping cattle were found important determinants of cattle off-take, that is, the decision to dispose or retain animals. On the basis of these findings, the current official wisdom that there is rampant overstocking of SNL is questioned, especially in the light of individual homestead

herd sizes, and expert opinion about the economically viable herd size per homestead on SNL. Three-quarters of homesteads in the sample had herd sizes less than the optimum number of 14 cattle necessary to provide for their subsistence needs.

In addition, the validity of the current definition of cattle off-take is questioned, given the socio-economic and cultural context in which cattle are raised by the Swazi people. It is suggested that off-take is not just sales for commercial slaughter, but includes home slaughters and cattle deaths, as well as flow products and services that cattle provide their owners. Seen from this point of view, communal rangelands are more productive than commercial ranches, and support larger numbers of people.

Ultimately, the solutions to the problem of cattle rearing on SNL nests within the political realm of the land, especially the "cattle belong to the king" culture. Unless and until this riddle is solved, the issue of cattle owned by indigenous Swazi people will continue to be cause for concern for the foreseeable future.

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Two people suffered the most from my decision to pursue doctoral studies: my two children, Gugu and Mandla. The former, for having had to endure 5 years without her only parent and the latter, for the pain suffered through culture shock and neglect, while I strove to make the grade as a graduate student. Life can only improve henceforth. I love you both, with all my heart.

I owe the zeal and enthusiasm for education to my mother who, unfortunately, passed away 4 months before I set out for Edmonton. Without having set foot in a classroom herself, she was, however, a firm believer in the value of education, especially for a woman. My life has been a true test of her predictions and thus far, all her hypotheses have been validated! Wherever she is, I know she is smiling with pride at this latest accomplishment. Thank you. Ginindza lomphofu netinyawo takhe!

Ultimately, the cattle owners of rural Swaziland deserve the most thanks. They made this study possible. They allowed me to ask them very detailed, personal questions about their lives and possessions. I appreciate their patience.

Any errors in the interpretation of the data in this study are mine, alone.

Table of Contents

		Page
Chapter 1: Background and Problem		**1**
1.0	Introduction	1
1.1	An Historical Account of Livestock Development on SNL	2
1.1.1	Colonial Policies	2
1.1.1.1	The Paper Conquest: Land Alienation	4
1.1.1.2	Cattle Improvement Schemes	7
1.1.1.3	Land Acquisition Schemes	8
1.1.2	Post-Colonial Policies	10
1.2	Justification for the Study	16
1.3	Objectives of the Study	17
1.4	Organisation of the Thesis	18
Chapter 2: Literature Review and Theoretical Framework		**19**
2.0	Introduction	19
2.1	Paradigms for Explaining the "Cattle Problem"	20
2.1.1	The Cattle-Complex Paradigm	20
2.1.2	The Tragedy of the Commons Paradigm	23
2.1.3	The Store of Value or Subsistence Paradigm	25
2.1.4	The Recuperative Power or Precautionary Motive Paradigm	27
2.1.5	The Economically Viable Herd-Size Paradigm	28
2.2	Summary	29
Chapter 3: Methodology and Data Collection		**31**
3.0	Introduction	31
3.1	Laying the Groundwork	32
3.1.2	The Diagnostic Survey	32
3.2	The Unit of Analysis	33
3.3	Sampling Procedures	33
3.3.1	Selection of Study Sites	34
3.3.2	Selection of Homesteads	35
3.4	Design of Interview Schedule	36
3.4.1	The Pre-test	37
3.5	Efforts to Ensure Data Validity	37
3.6	Collection of Data	39
3.6.1	Other Sources of Data	41

3.7	Data Coding and Entry	42
3.8	Data Analysis	42
3.9	Personal Reflection	43

Chapter 4: The Swazi Rural Homestead

4.0	Introduction	44
4.1	Homestead Composition	44
4.1.1	The Physical Characteristics	44
4.1.2	The Demographic Features	47
4.1.3	Education, Residence and Employment Status of Members	50
4.2	Wealth Status and Resource Base	55
4.2.1	Sources of Income	55
4.2.2	Homesteads' Ownership of Assets Other than Cattle	57
4.3	The Livestock: Cattle and Goats Ownership	57
4.3.1	Herd-size and Composition	58
4.3.2	The Meaning of Cattle Ownership to Swazi People	59
4.3.3	Uses of Cattle and Cattle Products by Rural Homestead	61
4.4	Actual Cattle Ownership	64
4.5	The King as the Overall Owner of the indigenous Herd	70
4.6	Summary	73

Chapter 5: Cattle Off-take **75**

5.0	Introduction	75
5.1	Cattle Sales	75
5.1.1	Herd Characteristics Influencing Cattle Sales	77
5.1.1.1	Herd-size	77
5.1.1.2	Age Composition of the Herd	78
5.1.1.3	Sex Composition of the Herd	80
5.1.1.4	Actual Ownership of Cattle and Sales	82
5.1.1.5	Reasons for Cattle Sales	83
5.1.2	Characteristics of the Homestead Members Influencing Cattle Sales	84
5.1.2.1	Number of Homestead Members	84
5.1.2.2	Number of School-going Children and Cattle Sales	86
5.1.2.3	The Gender and Age of the Homestead Head	87
5.1.2.4	The Residence Status of the Head and Cattle Sales	88
5.1.2.5	The Employment Status of the Head	89
5.1.2.6	The Homesteads' Access to Remittances	90
5.1.2.7	The Diversity of the Homestead's Income Base	92

5.2	Cattle Off-take Through the Slaughter and Death	95
5.2.1	Cattle Losses from Death and Cattle Sales	98
5.3	Ownership of Goats and a homestead's Cattle Sales	99
5.4	Summary	101

Chapter 6: Summary and Conclusions

6.0	Introduction	105
6.1	Why Swazi People Keep Cattle	105
6.2	Why Cattle are Sold or Retained	106
6.2.1	Prevalence of *Sisa*	108
6.2.2	Cattle Off-take	108
6.3	Is there Over-stocking of Swazi Nation range lands?	109
6.4	The Politics of the Indigenous Livestock Sector	116
6.4.1	Alternative Investment of Money Earned from Cattle Sales	121
6.5	Conclusions	124

Bibliography: 126

Appendices:

1	Interview Questions and Code sheet	150
2	Newspaper Clippings of Pertinent Stories	184
3	Picture of Minister of Agriculture Running Away from a Mob of Angry livestock Farmers	192
4	Press Statement of the Launching of the Market Focused Livestock Production Education Program	194
5	Swaziland Vital Statistics	196
6	Swazi Huts	198

List of Tables

Title		Page
Chapter 3:		
Table 3.1:	Cattle populations by Agro-ecological Zone	36
Chapter 4:		
Table 4.1:	Number of People per Homestead	47
Table 4.2:	Homestead Size by Age, Gender, Marital Status and members' Relation to Head	49
Table 4.3:	Education by Age, Gender, and Residence Status of Members	51
Table 4.4:	Education by Employment, Income, and Location	53
Table 4.5:	Major Sources of Income for Sample Homesteads	56
Table 4.6:	Indicators of A Homestead's Wealth Status	57
Table 4.7:	Goat and Cattle Ownership by Members' Relationship to the Head of a Homestead	58
Table 4.8:	Number of Cattle per Homestead (Herd-size)	58
Table 4.9:	Age by Sex of Cattle	59
Table 4.10:	The Meaning of Cattle Ownership to Swazi People	60
Table 4.11:	Services Provided by Cattle to Sample Homesteads	62
Table 4.12:	Uses of Products from Slaughtered and Fallen Cattle	63
Table 4.13:	Reported Ownership of Cattle	65
Table 4.14:	Cattle Ownership by Relationship to Head of Homestead Keeping Cattle	65
Table 4.15:	Sources of Individual Cattle in a Homestead's Kraal	67
Table 4.16:	Cattle Owners' Place of Residence and Reasons for Accepting *Sisa* Cattle	68
Table 4.17:	Cattle Kept by Other Homesteads by Relationship to the Head of the Homestead Keeping Cattle	69
Table 4.18:	Duties and Privileges of Recipients of *Sisa* Cattle	70
Table 4.19:	Opinions Towards "Cattle Belong to the King" Culture	71
Chapter 5:		
Table 5.1:	Number of Cattle Sold by Sample Homesteads	76
Table 5.2:	Cattle Sales by Herd-size	78
Table 5.3:	Age of Cattle Sold by Study Group, at Auction Sales and Possible Future Sales	79
Table 5.4:	Sex of Cattle Sold by Study Group, at Auction Sales	

	And Possible Future Sales	81
Table 5.5:	Number of Male Cattle in a Herd and Cattle Sales	81
Table 5.6:	Cattle Sales by *bona fide* Ownership by the head of the homestead	83
Table 5.7:	Reasons for Cattle Sales Given by Study Group, at Auction Sales and Possible Future Sales	84
Table 5.8:	Cattle Sales by Number of Homestead Residents	85
Table 5.9:	Cattle Sales by the Number of School-Going Children in a Homestead	86
Table 5.10:	Cattle Sales by the Age of the Head of a Homestead	88
Table 5.11:	Cattle Sales by the Resident Status of the Head of a Homestead	89
Table 5.12:	Cattle Sales by the Employment Status of the Head of a Homestead	90
Table 5.13:	Cattle Sales by a Homestead's Access to Remittances	91
Table 5.14:	Cattle Sales by a Homestead's Sources of Income	93
Table 5.15:	Cattle Sales by a Homestead's Ownership of other Assets besides Cattle	93
Table 5.16:	Cattle Sales by a Homestead's Ownership of a Tractor	95
Table 5.17:	Cattle Off-take Through Slaughter and Reasons for Slaughter	95
Table 5.18:	Cattle Off-take Through Deaths and Causes of Cattle Deaths	96
Table 5.19:	Off-take Through Slaughter and Death by Sex and Age of Cattle	97
Table 5.20:	Cattle Sales by Cattle Deaths in a Homestead's Kraal	98
Table 5.21:	Comparison of Cattle and Goat Off-take Through Sale and Slaughter	99
Table 5.22:	Comparisons of Reasons for Killing Goats and Cattle	100
Table 5.23:	Cattle Sales by a Homestead's Ownership of Goats	101

List of Figures

Figure		Page
Figure 1:	Map of Swaziland--Agro-ecological Zones	200
Figure 2:	Map of Swaziland--Land Tenure	201
Figure 3:	Map of Swaziland--Hectares per Livestock Unit	202

List of Acronyms

Acronym	Full Name
SNL	Swazi Nation Land
USAID	United States Agency For International Development
DANIDA	Danish Development Agency
MOAC	Ministry of Agriculture and Co-operatives
RDAP	Rural Areas Development Program
DVS	Department of Veterinary Services
FAO	Food and Agricultural Organisation
ODA	Overseas Development Agency
EEC	European Economic Community

Chapter 1: Background and Problem

1.0 Introduction

The statements: "*Inkhomo yinsila yemaSwati*" (cattle are an intrinsic trait of the Swazi people) and, "*nawungena nkhomo, awusiyo ndvodza yalufto*" (a man who owns no cattle is not worthy of respect) are two expressions that reveal the attitude of the majority of Swazi people towards cattle. Cattle fulfil political, social, economic, as well as cultural role in the lives of Swazi people. At the household level, cattle are a source and store of wealth. They constitute a hedge against inflation; they are convertible to cash in times of need; and are privileged currency in such still important traditional transactions as "*kulobola*" (bride-wealth). As producer goods, not only do cattle provide draught power and manure for arable agriculture; they reproduce themselves. As consumer goods, they produce such coveted flow products as milk, beef, national dress, and respect. As capital assets, cattle yield returns through various uses such as draught power, the creation or maintenance of social networks through *sisa*, bride wealth, ceremonies of thanksgiving, funerals and wedding celebrations and ultimately, respect. Through reproduction, weight gain and real price increases, they increase their value.

Given the social, economic and political significance of cattle in Swazi culture, it is not surprising that cattle have figured prominently in the policies of both colonial and post-colonial governments. As early as the turn of the century, government authorities saw cattle as the source of various problems, including the degradation of rangelands and insufficient land for commercial crop production. Throughout that period, various schemes to reduce the stocking rate and hence decrease land degradation have been designed. In almost a century, however, the problem does not seem to have been solved [Kunene, 1992; Nguni, 1984; Funnel, 1991].

Soil erosion and the sedimentation of dams have been a national concern since the 1930s. It became of particular concern in the 1960s, when a tremendous increase in soil loss on the steep slopes of the Middleveld and Highveld regions was documented. This resulted in loss of nutrients in the topsoil, reduction in land productivity and silting of reservoirs. Sheet, rill, and gully erosion occur due to wind in the dry season and surface runoff in the wet season in these areas. These processes are exacerbated by the loss of vegetative cover, which is a result of indiscriminate burning of grasslands, the removal of wood for sale to urban centres and for fuel, the use of grasses for thatching and handicrafts, as well as overstocking (Shongwe, 1992; Ngwenya, 1992).

In spite of the various reasons for the denuded Swazi Nation Land (SNL) range, successive Swazi governments have singled out overstocking[1] and

---

[1] Overstocking and carrying capacity, are expressed in livestock unit/ ha, and refer to an imbalance in the ratio of animals grazing on the range to the vegetative cover (i.e. quantity and quality of grass) available to feed that number. When there are

overgrazing[2] of range lands by cattle as the major cause of land degradation in the countryside. Consequently, a national policy of de-stocking Swazi nation rangelands to ameliorate environmental concerns on SNL has been evident since as early as 1910. Among the most punitive measures were tests of vaccines for East-coast fever on African cattle, including those in Swaziland (manufactured in neighbouring Republic of South Africa). Another such measure was the introduction of poll and hut taxes with fines for those without cash that required payment in cattle [Kuper, 1947; Bonner, 1983; Kunene, 1992].

1.1 An Historical Account of Livestock Development on Swazi NationLand

1.1.1 Colonial Policies

The agronomic aspects of the Swazi rural homestead economy have received more attention in research and resource allocation than the animal production aspects. This can be attributed, first, to the preoccupation of the colonial administration with the production of cash crops that needed backing by sound research (Ehui and Lipner, 1992). After independence, the national government's preoccupation with food self-sufficiency, especially for maize, further necessitated the transition of SNL farmers from subsistence to commercial production. Research on livestock was not a priority and the livestock sector was to a large degree, left to its own devices (MOAC, 1983).

Two concerns regarding native livestock preoccupied the colonial administration: the escalating degradation of grazing lands [Forbes, 1938, Youe, 1978] and cattle diseases, such as foot and mouth as well as East Coast fever [Funnel, 1991; Nguni, 1984; Simelane, 1992a]. The idea that the native areas were overstocked has been bandied about for almost a century. This notion stemmed from visual impressions of the land in the areas set aside for natives after land partition, in 1907. For instance, in 1930, the Colonial Annual Report noted that wells were drying up due to increased population pressure. By 1931, the problem had deteriorated further. The Colonial report then observed that

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more animals than the capacity of the range i. e. available feed, then the range is said to be overstocked. A causal link has been assumed in the range management and livestock development literature, between overstocking and overgrazing though experts disagree on this [Nguni, 1984; Funnel, 1991; Ogwang, 1992; Le Roux and Sithole, 1974]. This line of reasoning is responsible for the 'de-stocking' policy, which continues to be upheld as the panacea for the conservation of SNL rangeland (Mace, 1992).

[2] The link between overgrazing and carrying capacity does not take into account the effects of the droughts that have occurred in the region; nor the effects of other indigenous range management practices that may be equally destructive to the range land. These include the annual burning of grass in the spring, which is done under the assumption that it invigorates grass growth. If the anticipated rainy season turns out to be dry, then burning decreases the capacity of the range to survive the drought. The arguments for a causal link between over stocking and overgrazing also ignore the fact that systematically, cattle on SNL are fed crop residues in the dry season, which gives the summer range a four months (May to September) period of rest and recuperation. This should allow the grass to grow [Ogwang, 1988; Nguni, 1984].

> one of the most alarming features seen on a tour through Swaziland is the erosion, which is taking place in the native reserves. The overstocking of cattle, affecting the grazing and watering facilities of the territory is becoming a serious matter. Unfortunately, a great number of pools, which were formerly known to be permanent, have dried up. This is not due entirely to the rainfall being below average but also to the extra demands placed on water sources by increased herds of cattle. Stock graze the range bare year in and year out resulting in serious depletion of natural herbage (p. 45).

Despite this early concern with overgrazing in the native reserves, it was only in the middle of the 1970's, that the government actively sought to modernise the indigenous livestock sector. At this time, the country was offered a quota to export beef under very favourable terms, by the European Union under the Lome Convention. Since then, all livestock development projects have endeavoured to commercialise SNL livestock keeping by "providing farmers with skills and knowledge of appropriate animal husbandry, so that they can raise better animals *for the market*" (own italics) [Butterworth and Presswood, 1978; MOAC, 1995:7].

This chapter presents a brief history of the evolution of overstocking, and will outline the efforts at modernising or developing the indigenous cattle rearing on SNL, mainly by commercialising the husbandry and attitudes of cattle owners. A historical overview and critique of livestock development in Swaziland, during both the colonial as well as the post-colonial periods, a period spanning almost a century, will be given. Nguni (1984:184) notes that one of the hallmarks of development on SNL is how little change development policy has made in Swazi peoples' attitude to livestock. He attributes this failure to the inability of the harbingers of these changes to tackle the fundamental issues concerning the socio-economic and political systems obtaining on SNL. One of these is the communal land tenure system, which,

> hinders the introductions or adoption of improved methods of animal husbandry, by making it difficult to erect fences in order to introduce paddocking, provides no incentive for using improved breeds of bulls to upgrade one's herd, or embarking on pasture conservation which other users may not adhere to (p. 184).

1.1.1.1 The Paper Conquest: Land Alienation

Ecological change in Swaziland and, especially on SNL, is the result of events that took place in the late 1800's -the period of first contact with Europeans -in the form of land partition. In the late nineteenth century, King Mbandzeni conceded extensive land rights to foreign white settlers who came looking for gold. These provided grazing land for their sheep and a cheap living beyond the confines of encroaching states --Natal, the Transvaal and the Portuguese in Mozambique [Forbes, 1938; Russell, 1986; Kuper, 1947]. When the British took control of Swaziland in 1902, they found overlapping rights of several parties to a single piece of land and immediately set about rectifying[3] the situation. Their solution was to deprive the natives of land by conferring free-hold title on foreign concessionaires, who constituted 1.1 percent of the population at the time of partition in 1907 (Bonner, 1983). The only condition on this arrangement was that the concessionaire set aside a third of his holdings for the exclusive use of the Swazi people they had found residing in the land. No stipulation as to the quality of such land was made, and the indigenous Swazi would only be allowed to stay if they agreed to offer free labour to the new owners. In 1935, Kuper (1947) found 33 blocks of native settlements perched on mountains and rocky outcrops scattered throughout the country which, in total, constituted a third of the land area. At independence these were renamed Swazi Nation Land (SNL).

By the stroke of a pen, the Swazi people lost control over two thirds of their land to foreign concerns. They had to abandon their farming system, which was based on long fallow periods and nomadic herding of livestock, and become sedentary agro-pastoralists. They had to cultivate crops on the same piece of land and raise livestock on a fixed land area where, hithertofore, they had moved their animals, and dwellings, around the country in search of good pasture and water. On this marginal land, humans and animals fought for sustenance. The roots of resource degradation through overstocking and high population density were thus sown. The colonial act of land alienation, and the sedentarisation of the previously nomadic Swazi, contributed much to the perseverance of communal tenure in the country. By rendering land tenure insecure and thus less dependable as a source of sustenance (due to fear of being randomly evicted), the colonial power inadvertently raised the value, security and dependability of livestock in fulfilling this role. Cattle became the only assets of value that Swazi people owned, since cattle were never forcibly seized, even for implementing the de-stocking policy.

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[3] The clarification was necessary since the Swazi people were of the impression that their king gave settlers rights to graze their sheep, not to own land. The tradition of the country allowed individuals to graze livestock but not own land as all land belongs to the king. The settlers on the other hand, claimed outright ownership of the land allocated to them, as they had 'paid' for it- in dogs or knives- understood to be mere symbols of appreciation by the Swazi (Kunene, 1992; Simelane, 1992; Bonner, 1983; Forbes, 1938).

By stripping the native Swazi of their major source of livelihood--land--and imposing taxation on almost everything, including wives, the colonial power ensured native dependence on wage employment for survival. The native areas subsidised the wage sector, since the wage earned was not enough to support the labourer, let alone his family. Employers justified the low wages by asserting that the money so earned was for the purchase of goods not found in the subsistence economy, such as salt and soap, implying that natives did not really need much money. Those workers had recourse to further substantive support from their rural base in terms of food, shelter, retirement insurance, and security. It also saved the employer from the cost of providing the necessary services which families of employees-wives and children--would have entailed--such as schools, and larger family housing units [Kunene, 1992 and Simelane, 1992].

Here lies the genesis of the rural-urban sector linkage and inter-dependence--through wage employment, remittances and their use--that has continued to befuddle many rural development policies aimed at modernising the subsistence sector on Swazi Nation Land. Participation in off-farm wage employment affords homesteads access to cash, which makes the sale of livestock an action of last resort. It is usually avoided as much as possible--while alternative sources of cash are sought--leading to low cattle off-take rates [Sibisi, 1979; Brokken, 1993).

The king--whom the colonial authorities referred to as the paramount chief--exercised his power only in the native areas and on the people occupying them. Here Swazi people were allowed to live their lifestyle, practice their customs, rituals, and ceremonies, as they had known them in pre-colonial times. It was at this time of adverse, congested living conditions, that the communal land tenure system in the native areas, evolved [Makhanya, 1987; Bromley, 1992; Murombedzi, 1994]. Communal land ownership was an attempt to ensure access to a source of sustenance and security for all members of the society.

Rather than ignore the natives and their pre-capitalist institutions, which had evolved to suit a nomadic, slash and burn lifestyle, the colonial administrators could have taken the opportunity at the time of eviction and resettlement, to modernise them. Had they insisted that a systematic resettlement pattern be followed-- which would have involved the demarcation of homestead sites, arable and grazing land, coupled with an intensive extension program designed to impart modern knowledge and skills of commercial crop and animal husbandry--suitable to a (new) sedentary agriculture, some of these issues would not be so paramount today. This represents a lost opportunity, the results of which are now history.

The imposition of taxation in the territory was the first feature of the "development" policy in the colonial era. Poll tax on adult males was introduced as early as 1898. Taxation was introduced, ostensibly, to raise money to cover administrative costs, but equally to force the Swazi people to sell their labour to the white South African and local mining and farming community. Later, the

multiplication of tax[4] increased the financial burden on Swazi people and pressured large numbers of them to migrate to places of employment which, before the Second World War, happened to be found only in South Africa (Liversage, 1948).

The control and eradication of cattle diseases in Swaziland was the most successful and spectacular of the colonial administration's development policies. Whereas before the imposition of colonial rule in 1902, the Swazi cattle herds were at the mercy of nature in the form of pests and diseases, the situation changed drastically with the introduction of compulsory dipping, in 1910. The extent to which Swazi people benefited from the eradication of disease can be gauged by the increase from 69 percent of the national herd in 1921, to 80 percent by 1930 of their share. This ratio has been maintained up to the present. The colonial administration showed total commitment to the eradication of cattle diseases by making dipping compulsory in 1910 (File 690D). It continued to build dip tanks all over the country, a policy which the post-colonial government has continued to the present. Today, there are over 700 dip tanks in the country (MOAC, 1995). This ensures that each cattle keeper is within easy reach of a dip tank, and has little excuse not to send his cattle for treatment.

The enthusiasm with which the disease problem was tackled leads one to suspect the colonial administration's motives, given its lackadaisical approach to other development problems that affected the Swazi natives, including the marketing of cattle. It seems they were eager to deal with the problem in order to safeguard the interests of settler cattle, locally as well as in the Republic of South Africa. Failure to eradicate diseases among native cattle would have meant risking the spread of disease to other cattle. Annual expenditure patterns during this period (1815-1950) show the colonial government's level of commitment. The exercise was not cheap even then. The veterinary department was always top of the list in allocations (File 690 D). The net result of this campaign was a reduction in mortality rates leading to an increase in cattle numbers, without a corresponding increase in the land area. Swazi people, albeit bitter about paying tax to finance treatments were, however, appreciative of the benefits of eradication of cattle diseases as this allowed them to rebuild their herds and improve their social standing and economic security.

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[4] New taxes included the dog, wife, hut, bicycle tax and graded tax levied on earnings from migrants working in the gold and diamond mines of the RSA. Yet, no colonial government or officer ever ventured into introducing a tax on cattle, despite numerous references to the fact that Swazi people regarded cattle as wealth, not as an income-generating asset. In fact colonial officers were very careful to cloak any financial request based on cattle that could be misinterpreted by the Swazi as a tax on cattle, as anything but a cattle tax (Nguni, 1984; Mashasha, 1994; archival file 262).

1.1.1.2 Cattle Improvement Schemes

Cattle improvement schemes were implemented in the early 1940's. These included the distribution of exotic bulls for selective breeding with the indigenous Nguni cattle to improve the quality of indigenous cattle and bring them to European standards (File 1: Mpsi series; File 1535). This project, however, failed to take off among natives, as the exotic animals were not suited to the socio-economic conditions or the husbandry practices, aims, and goals of the native cattle owner. These cattle were not hardy enough against local diseases, needed supplementary feeding, and complicated veterinary care, practices that were alien to the Swazi herders. In other words, they were introduced out of the context of the economy prevailing on Swazi Nation Land (the native reserves). It was assumed, for example, that natives kept cattle to sell for beef.

Despite the long history of the policy of de-stocking, no administration in Swaziland has ever embarked on a straightforward de-stocking policy. Indirect methods have been preferred, largely because of the fear of arousing the hostility of the Swazi people. According to Nguni (1984: 193), direct de-stocking would have cut through the very fabric of the Swazi socio-political system. It is interesting to note that the colonial administration was able to tax the Swazi on almost everything, including their wives, but none dared introduce a tax based on cattle owned. This was despite the realisation that cattle were the store of wealth for the Swazi people, and that earnings from labour migration to the Union of South Africa were being used to accumulate herds of cattle (Kunene, 1992).

Archival correspondence between veterinary officers of North and Southern Rhodesia, the Union of South Africa and the three High Commission Territories (as Swaziland, Lesotho and Botswana were referred to in the colonial period) are rife with the shared concern over how to deal with the native cattle. This was especially so regarding recovering the costs of dipping and convincing natives to cull their stock (File 262 and 865). On several occasions, when they wanted to introduce legislation that they suspected would be contentious, the colonial administration enlisted the support of the traditional authorities, in the person of the Paramount Chief (the king). This was particularly evident in the several "disguised" attempts to de-stock native areas through organised marketing schemes.

The postcolonial governments have had their hands burnt on several occasions in their attempts to introduce costs to cattle rearing on Swazi Nation Land. For instance, the latest livestock policy document and pronouncements by the Minister and Veterinary Department (Appendix 4) extols the importance of harvesting regular flows of income from one's herd of cattle (rather than making sporadic sales for emergencies). No mention is made of herd reductions[5].

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[5] MOAC, 1995; Times of Swaziland, 17th and 23 rd July, 1996—se Appendix 3 and 4.

Until 1942, the colonial administration had not made any effort to provide cattle marketing facilities for native cattle. In fact, there is evidence going back as far as 1932 that the Swazi needed market outlets for their cattle but the colonial authorities ignored this. They preferred instead, that natives procure the cash necessary to pay taxes from working in settler farms and mines, rather than from cattle sales (File 329). The failure to encourage natives to market cattle, in favour of proletariatising them, not only precipitated the overstocking problem but also led to the attachment--among the Swazi people--of cultural social values to cattle, and an unwillingness to commercialise cattle production.

Cattle were not seen as money in the pocket, as products that were produced to be sold, since this was not encouraged. Instead, Swazi's came to perceive wages earned from off-farm employment as the only source of cash, with only the occasional sale of cattle in an emergency, or for herd renewal--a mentality that persists today. In other words, while the colonial government was pushing natives into the labour force by imposing levies on everything they owned, excluding cattle, they never impressed upon them that they could get the same cash by selling cattle. This was because, at that time, the settlers needed labourers to work in their farms and mines, in Swaziland and the Union of South Africa. Consequently, cattle did not become associated with money by the natives, but only with the provision of other pre-colonial goods like status, wives and children, milk and manure. Cattle proved useless to the Swazi as a money provider to save them from the drudgery of working in the mines and farms to earn money, with which to pay tax. Thus developed the mentality and practice of subsistence agro-pastoralism and low cattle off-take rates that is so problematic today.

The absence of an organised market was not helped by the low prices that were offered to the native for his cattle, as Sir. Pim (1932) found out. When the colonial authorities decided that it was time the Swazi were divested of some of their cattle in 1942, one of the first actions towards this objective was to set up sale yards. The number of these centres was multiplied in a concerted effort to cover as much of the native areas as possible. Evidence suggests that the provision of these market outlets, per se, did not lead an avalanche of cattle for sale. Rather than regularly selling cattle, Swazi people only took advantage of this avenue when they had to, the long distances and low prices offered being some of the reasons given at the time. The problems of selling through organised markets have persisted to this day, and have certainly not alleviated the overstocking problem (MOAC, 1980).

1.1.1.3 Land Acquisition Schemes

As soon as it became clear that partition would proceed[6] and that they would lose two thirds of their land through the partition proclamation of 1907, the

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[6] The queen regent Labotsibeni, stipulated that an amount of 1 Pound Sterling be deducted from the wages of each migrant

Swazi nation set about raising funds to buy some of the land back. This drive began in 1911, and by 1913, they had raised enough money to buy 31,101 hectares from willing concessionaires, for the resettlement of natives from overcrowded marginal land (Nguni, 1984). The colonial administration was not very pleased with the success of this venture, but let it continue for a while. Through Proclamation Number 2 of 1915, the Swazi were forbidden from collecting anymore contributions, especially from migrant workers based in the Union of South Africa. By the same Proclamation, they were forbidden to buy more land, without the consent of the Resident Commissioner, consent that was rarely, if ever, given. Thus, by preventing the natives from purchasing more land, without a concomitant attempt at reducing cattle numbers, overstocking and overgrazing were foregone outcomes.

In 1922, a year after being installed as the king of the Swazi people, king Sobhuza II set about preparing to go to England to argue against the Land Partition Proclamation of 1907, in the English courts. To finance this trip, as well as to pay the legal costs of the suit, the king established the Deputation Fund. He asked all Swazi, including those Swazi who were within the South African side of the border, who owned more than 10 head of cattle to contribute one animal. Specially selected and trusted councillors collected the cattle, sold them, and deposited the proceeds into the Fund. Those with fewer animals would contribute the equivalent of Two Pounds Sterling every three years to the fund. The Swazi lost this legal battle, but the collection and sale of cattle did not stop, and the Fund became known as the *Lifa* (or Inheritance) Fund[7]. The king rationalised the continuation of this fund as a source of funds for undertaking development projects aimed at raising the standard of living of his people.

On observing the success of this campaign for funds, and with the hope that Swazi traditional authorities would prevail upon their subjects to sell more cattle, the colonial administration hijacked the drive. In 1946--after the end of the Second World War, which saw an influx of immigrant settlers from Europe and the growth of the European population in the country needing to be fed--the colonial government instructed that part of the proceeds from these sales should be used to buy back "idle" concession land. By 1949, 15,000 head of cattle had been disposed through this scheme. Because no specification had been made as to the class of stock to be disposed, the natives culled inferior cattle such as old oxen and sterile cows for sale. As a de-stocking measure, the scheme did not address, however, address the overstocking problem. Rather, it availed fodder for superior cattle, enabling them to thrive [Nguni, 1984; Kunene, 1992).

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labourer and deposited into this fund (*sikhwama saMgwami*), for the purchase of land for the Swazi people. Those who did not go to the mines were encouraged to sell cattle and contribute Two Pounds Sterling every three years, to the fund.

7 Part of the claim that 'cattle belong to the king' stems from such campaigns. Cattle owners could not refuse the kings 'request', just as they still can not refuse a call from the king to donate cattle for a national cause, today.

State farms--to which Swazi livestock producers were encouraged to send their cattle for finishing prior to sale, ostensibly to realise a higher price--were set-up in 1965 as another inducement to the indigenous Swazi to market their cattle. The number of these schemes increased from one in 1965 to 4 at present (Commission of Inquiry Report, 1991). This scheme has failed to attract cattle from SNL. The reasons include the fact that cattle remain on these farms for an average of 6 to 14 months before being sold, coupled with the fact that many SNL owners sell cattle mainly to meet immediate cash needs. Utilisation of the fattening ranches to full capacity has not occurred, and this initiative has not been successful in de-stocking SNL rangelands.

1.1.2 Post-colonial Policies

At independence, the government continued to define overgrazing as a national problem, with overstocking as its cause and de-stocking as the most appropriate solution. In its efforts to modernise agriculture, the government introduced a series of incentives designed to persuade farmers to change age-old farming practices and, in the case of livestock, to commercialise animal husbandry (MOAC, 1993). Indeed, three years after Swaziland regained political independence in 1968, the post-colonial government's flagship rural development policy was initiated to address issues of poverty and backwardness in the former native reserves. With assistance of the international donor community, the government embarked, headlong, on a large integrated rural development program. Agencies such as the World Bank, the United States Agency for International Development (USAID), the Food and Agriculture Organisation of the United Nations (FAO), and the Danish International Development Agency (DANIDA), funded various components of the 15 year-long Rural Development Areas Program (RDAP) programme. The main thrusts of this program were to improve the quality of life on SNL by increasing agricultural productivity, providing clean rural water and improving road networks, as well as to train extension staff.

On the agricultural side, the projects introduced new crop and livestock production practices, as well as improving marketing infrastructure and services. Up-to-date management practices, including crop rotation, the use of synthetic fertiliser, paddocking, stock feed production, dairy cow production, cross breeding exotic bulls with the indigenous Nguni herd, etc were introduced and vigorously promoted among SNL homesteads. The assumption was that with all these changes, the homestead economy would transform from a focus on security of subsistence to production of surpluses for the market. Crops and animals would be raised not just to feed one's family, but to produce surpluses for sale.

It was hoped that Swaziland would be transformed from a net importer of maize and beef to a net exporter of both these products. This did not materialise, despite the extensive introduction of new technologies [Bowen, 1993; Brokken,

1996; Doran, Low and Kemp, 1979]. Instead, the new technologies facilitated the production of enough maize for homestead consumption on less land, with less labour, thus making it possible for more homestead members to leave the farm and seek off-farm wage employment. In the end, there is no surplus maize for sale to feed urban populations, land is left fallow, and the country continues to import maize. Indeed, according to Bowen (1993: 88), imports actually increased [Funnell, 1988; Low, 1986].

The livestock sector fared no better. With healthier cattle from the improved veterinary care, coupled with a diversified income-base from milk sales and salaries from employment, stockowners sold even fewer animals. Despite the higher prices offered per animal and improved marketing networks, proceeds from the sale of fewer animals became adequate to satisfy needs that, previously, would have necessitated the sale of more cattle [Doran, et al, 1979; MOAC, 1983]. The rural development project, in fact, entrenched cattle as a source of quick cash and a lucrative store of wealth. Even educated, salaried urban dwellers recognised and seized upon this opportunity to accumulate wealth, by investing their savings in cattle. The legacy of the project lives on and contributes to the despair of government policy-makers (some of whom are the owners of the largest herds), who are faced with the threat of withdrawal of donor funding to this sector. With their own wealth accumulation threatened, policy makers wring their hands and wonder how to lay their hands on Swazi Nation Land cattle.

The government developed *sisa* ranches, with assistance from the Overseas Development Agency in 1978 as part of the Rural Development Areas Program (RDAP). These too were aimed at encouraging indigenous Swazi to off-load "excess" cattle from the communal rangelands. Under the scheme, cattle owners provide 10 young breeding animals to the government-run ranch. The cattle remain there for an unspecified period at a cost of Can$3 per animal, per month. These young female cattle are exposed to exotic bulls for service. Upon weaning, all male offspring are sent to the fattening ranches, for finishing and subsequent sale. Female calves remain on the ranch for breeding, whilst old cows are also sent to fattening ranches for finishing and sale (MOAC, 1987: Vols. 1).

Under this scheme, there is no stipulation of kind of people that can send cattle to the ranches or is there a limit on the number of animals an individual can hold. There are currently six such ranches, scattered throughout the country. Consequently, the scheme has experienced numerous problems for those who ventured to use the *sisa* ranches. There has been bad publicity and several commissions of inquiry into their operations [MOAC, 1991: Vol. 2]. Like other disguised attempts at de-stocking before them, *sisa* ranches have not been successful in relieving the communal range of "excess" stock. Largely, these schemes failed because of the incorrect assumption that cattle are raised for beef and for sale, ignoring the flow of products harvested by cattle owners [Task Force on Cattle Marketing, 1992; Brokken, 1993].

In the early 1980's, veterinary assistants reported that ticks had developed resistance to the chemical for dipping cattle. They suggested that a more potent and more expensive chemical was necessary. The Minister of Agriculture and Co-operatives (MOAC) presented Parliament with an urgent bill seeking the release of supplementary funds to purchase the new and expensive chemical. It was the first time that the issue of dipping chemicals and their cost to government (taxpayers) became an issue open for public debate. Until then, the MOAC had funded this expenditure silently. In fact, many people were not aware that their taxes subsidised cattle owners, or by how much.

The bill precipitated a heated debate between protagonists and antagonists of the subsidy. This was carried out both in parliament and in the news media[8], with the MOAC waiting for the release of funds to reduce cattle deaths in the country. In the end, the politics of the livestock sector prevailed and Parliament authorised the release of funds for this purpose. What this debate achieved was the sensitisation of the public, particularly those people who did not own any cattle, to the unfairness of subsidising wealth accumulation through cattle by some fellow fellow citizens. The fact that the government does not collect sales tax from cattle sales added fuel to the feelings of unfairness of the policy. It was at this time that some salaried workers could be heard commenting that they should be using their savings to buy cattle, since they were already supporting the industry through personal income tax paid to the government (Forsyth-Thompson, 1997).

These arguments occurred in a time-period when there was dissatisfaction in government circles with the country's failure either to meet domestic needs or to export beef. The loss of foreign exchange from the EEC Lome agreement was noted despite the *many* (own italics) cattle roaming the countryside causing, not only environmental degradation, but also fatal road accidents. A major USAID funded project, which had recommended the privatisation of Swazi Nation Land to force farmers to realise the folly of their (bad) land management practices, had also just been published (1988).

More recently, these debates have recurred in response to attempts by the government to make livestock keeping more costly to SNL cattle owners. Measures such as the introduction of fees for services that were provided by the government free or, at subsidised rates were again proposed. The underlying assumption of these of these is that once cattle ownership entailed a cost, Swazi people would not keep as many animals. Those who did not have access to remittances from family members working in urban centres or access to other sources of income would have to sell animals to pay such fees. The proposed fees were opposed vigorously by cattle owners. Up to now, these attempts have not

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8 The Times of Swaziland, 5th and 7th November, 94; 17/09/98; The Swazi Observer, 18, 29/11/94.

succeeded to the level anticipated by the government [Funnell, 1991; Brokken, 1993; TOS, 1998].

Government policies and the advice of development experts have failed to effect the transformation of cattle keeping among the Swazi from a subsistence-oriented endeavour to a commercial, market-driven activity. The blame for the recalcitrant behaviour of indigenous Swazi stockowners has been variously placed on the 'cattle-complex'[9], which manifests itself as 'conservatism'[10] [http//. www.swazobserver.sz: 1998). The assertion that overgrazing[11] and range degradation are serious problems in Swaziland has been repeated by government officials and livestock development experts for so many years, that the statement has achieved the status of a fundamental truth[12]. This received wisdom attributes the cause of these problems to cattle and, therefore, their owners. Accusations such as the following are very common, and are the foundation upon which many livestock development projects in the region have been based.

> It is generally agreed that overstocking and the lack of managed grazing patterns in east and southern Africa are the most important causes of desertification. This phenomenon is a symptom of more fundamental problems of the inability of individuals and communities to adopt known land management and conservation technologies. If current desertification trends are not reversed quickly, the countries of the region may permanently lose the capacity to feed themselves. For these reasons, the mastering of the critical problems of overstocking is one of the keys to the medium and long-term economic development of the region (Ferguson, 1977:7).

Since the thrust of the above statement leads to programs which alter traditional systems of range land use and actions likely to engender hostility and non co-operation on the part of herders, it is important that it be examined carefully. Three assumptions inform this position: a) that the environment[13] is

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9 Describes an emotional and psychological relationship between stockowners and their cattle (Herskovitz, 1926).

10 A reluctance to dispose of animals.

11 Overgrazing refers to the loss of vegetative cover, i. e. grasses, and shrubs that animals graze. It can result from many causes, unrelated to animals, such as indiscriminate burning of the rangelands during spring, ostensibly done to invigorate grass growth with the onset of the rainy season. It can also be a result of overstocking. In Swaziland, apparently, it is the last cause that is blamed by policy makers and livestock development advisors (Ogwang, 1991). Swaziland's carrying capacity, at 3.76 Livestock unit /ha is considered the highest in the world (MOAC, 1992).

12 This study does not question this prevailing consensus. It takes this 'truth' at its face value and, thus, forms a premise of the study. However, the premise is assessed in the following discussion.

13 In this study, the environment refers to the vegetative cover- the grasses and shrubs that cattle and other livestock eat, the

being degraded; b) that desertification is caused by overgrazing and c) that overgrazing is the result of common access to pasture and an unwillingness by stock owners to limit numbers of animals kept, in other words, overstocking. The most commonly accepted policy for counteracting this phenomenon is the de-stocking[14] of communal rangeland, preferably through increased sales to the slaughter market.

Rural development has been the top priority of the national government since Swaziland attained political independence in 1968. The goal has been to raise the standard of living of the indigenous rural population who had been, hithertofore, neglected by the colonial government (Funnel, 1991; Kunene, 1992). To this end, the government enlisted the assistance of various donor countries and funding agencies to undertake rural development projects. These projects had one common objective: to transform the predominantly subsistence oriented rural economy of Swaziland to a commercialised, market-oriented one.

To accomplish rural development and environmental conservation, millions of dollars in national and international resources (involving both money and person hours) have been spent on programs intended to develop the indigenous Swaziland livestock industry. The thinking in official circles has always been, if we can convince farmers to cull their cattle herd, the degradation of Swazi Nation Land[15], would be resolved. Programs aimed at modernising the indigenous Swazi livestock sector adopted a two-pronged approach. The first, being psychological, attempted to convince cattle holders to value the quality more than the quantity of cattle they owned, by advising them to keep primarily young animals. The second approach was economic. Cattle owners were advised to sell old (older than 24 months) and "excess" cattle of low quality, as a source of income for their families (National Development Plan, 1968-73; 1973-1978; IBRD, 1984; Nkambule, 1983; Funnell, 1991).

Despite 30 years of persistent advice to cull their herds, cattle owners have resisted doing so. In fact, barring the odd period of drought, data shows that cattle numbers have been steadily growing since overstocking[16] and overgrazing were

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soil and water.

14 Selling young animals and keeping breeding stock only.

15 Swazi Nation Land is held by the king, in trust for the Swazi nation, and is divided into chiefdoms- presided over by hereditary chiefs- for administrative purposes. SNL comprises former native reserves -which comprised just one third of the total land area after partition, in 1907. It also includes land purchased by the Swazi nation through the Lifa Fund (a fund established by the queen regent Labotsibeni, and financed through the earnings of Swazi migrants to the South African mines; as well as through a cattle levy); land returned to the Swazi people for resettlement schemes in the 1940s and land purchased for the settlement of Swazi from over-crowded native areas, through a program funded by the Overseas Development Agency. Currently, SNL covers 60% of the total land area of Swaziland (Nkambule, 1983; Sithole, 1986).

16 Overstocking refers to an imbalance in the ratio of animals to the size of grazing land. In this case, it refers to there being more animals on the range that the range can carry.

problematised in the 1930's [MOAC, 1995; Nguni, 1984:183]. The failure to de-stock the SNL may be attributed in part, to the failure of the designers of livestock development programs to take cognisance of social, cultural and political factors constraining Swazi cattle owners, and the importance of the interpretations and goals of indigenous cattle rearing.

Cattle ownership is a commitment predicated on cultural assumptions embedded within diverse political, economic, social and religious institutions. Scholars such as Herskovitz (1926) and Hedlund (1953) have often contributed to popular misconceptions of indigenous cattle holders by describing them in univocal terms, as a homogenous group, which is not so much wrong as inadequately nuanced. National governments and development experts have tended to view cattle owners in purely economic terms, as livestock producers and resource managers, rather than as human agents within the context of a culture and political economy. Too often, the dialectic between economic practice and social value and between livestock owners and the state has been ignored.

Accounts often suggest that rural homesteads holding livestock practice strictly subsistence-oriented, rather than flexible production strategies that are articulated with the market (E-mail of EEC project,). Hence, the rural economy is variously referred to as the subsistence, peasant, or traditional sector, as though it is discrete from the national economy yet this is far from reality. Cattle owners are characterised as irrationally motivated towards unfettered livestock accumulation, rather than as rationally facing compromises between security and economic growth; that they are insensitive to environmental constraints, rather than managing a fragile environment under difficult circumstances (Galaty and Bonte, 1992).

That the problems of overstocking and its twin--overgrazing--have plagued both the colonial and post-colonial governments since 1932 suggests that there might be something peculiar about the relationship between Swazi people and cattle. There may be issues worth further probing, to provide an explanation of Swazi cattle owners' preference for retaining cattle, despite a wide net of incentives to sell to the beef market. These incentives have included increases in the price of cattle; improvements in the marketing infrastructure (including an increase in the number of sale-yards, as well as in the frequency of auction sales) and the provision of trucks for transporting cattle at strategic points [RDAP, 1981; Nkambule, 1984; Funnell, 1988].

Beyond being informed by the controversial[17] concept of rangeland carrying capacity[18], the policy of de-stocking[19] ignores the social, cultural,

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17 Controversial in the sense that range management specialists and range ecologists have not reached an agreement about whether and to what extent the SNL rangelands are degraded. Alternatively, even whether all such land through out the country is degraded. There may be pockets of degraded SNL, but not everywhere. This is the controversy referred to here.

economic and political context within which livestock, particularly cattle, are raised in rural Swaziland. It is a policy informed by the natural sciences (biology; ecology) and is oblivious to the needs and aspirations of the people who raise the animals.

An important marketing decision on which to focus is the decision to retain or sell an animal. Hence, this study attempts to address two questions: why Swazi people keep cattle, that is, why Swazi farmers hold on to cattle despite the pressures from colonial and post-colonial governments to reduce their herds. The question of why cattle owners do sell, is an important second aspect to this question. What must be determined is how the decision to retain, rather than dispose of an animal is arrived at by its owner. Due consideration should be given in this analysis to the socio-cultural uses as well as customary practices and flow products in addition to the commercial slaughter value of cattle.

1.2 Justification for the Study

Several studies have been done in Swaziland on the apparent recalcitrance of indigenous Swazi cattle owners to commercialise their cattle husbandry practices. In essence, cattle owners are urged to keep fewer, younger cattle and sell to the beef market on a regular basis [Butterworth and Presswood, 1978; MOAC, 1995]. These studies share one common characteristic: they are informed by economic theory and assume that cattle ownership among the Swazi people is primarily an income generating activity, geared towards the maximisation of profits and concomitant minimisation of costs [Doran, et. al 1979; Abdullahi and Janke, 1990; Brokken, 1993]. They have been conducted by economists who "model" cattle owners as portfolio managers in a rural household economy in which cattle are but a mere farm product, comparable to bags of maize per hectare or eggs per chicken. Based on models of the rational cattle owner, these studies tended to assume that cattle owners formally engage in calculations of the costs of inputs, versus the value of outputs from cattle production.

Previous studies have not linked cattle rearing on Swazi Nation Land with socio-cultural identity (except to accuse cattle owners of keeping cattle for "prestige", as though it is wrong to enjoy the prestige that one's possessions bring). Indigenous cattle rearing has not yet been studied from the cattle owners' vantage point, which acknowledges that the flow products such as milk, manure, draught power and dung, together with the end-products such as clothing, meat or

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See for example, Ogwang (1988 and 1991) and Funnel (1991) and the comments of the FAO range management specialist (1994) on this issue.

[18] The carrying capacity of a range is determined by the level of rainfall, soil type, slope, and type of vegetation (Ogwang, 1991). Swaziland's carrying capacity at 3.76 L.s.u./ha is considered the highest in the world (MOAC, 1992)

[19] Colonial and post-colonial governments tried to persuade rural homesteads to cull their herds of cattle by selling animals older than 24 months and male cattle, keeping only female, breeding stock.

money fulfil not only an income role, but also those of subsistence and social security needs. It is hypothesised in this study that these products are a significant part of the off-take enjoyed by cattle owners, of importance in a country that does not provide any form of support for unemployed, poor, elderly, sick or handicapped members of its society.

This study also introduces the investigation of indigenous cattle rearing as an investment, with a long history among the Swazi people, one that has been tried, tested and, therefore, trusted. In most cases, this is the only investment opportunity accessible to the majority of cattle owners, most of whom are semi-literate, non-cosmopolitan, rural dwellers. These are some of the issues of investigation in this study, since it is believed these will add depth to the understanding of the issues involved in the current debate about cattle and the fate of the policy of de-stocking Swazi Nation Land.

The non-economic aspects of indigenous cattle keeping deserve investigation and consideration in any analysis of indigenous cattle husbandry practices in Swaziland. It is the contention of this study that the way to arrive at an answer to the first question raised earlier is to investigate the nature of the relationship between Swazi people and their cattle; this question raises issues of values and meanings. This should shed light on why some of the government policies, programs and projects undertaken in the country over the years seem to have failed to de-stock Swazi Nation rangelands, through increased cattle off- take to the beef market.

Since Herskovitz (1926) conceptualised the "cattle-complex" in east and southern Africa several explanations have been advanced for the behaviour of cattle owners, not only in Swaziland, but throughout east and southern Africa. These have usually been expressed in terms of supply and demand [Abdullahi and Jahnke, 1990; Sartorius, 1991; Brokken, 1993]. So far, few studies have undertaken an analysis that incorporates the social, cultural, and political role of livestock in the lives of the people who keep them. Even fewer have considered the subjective meanings of cattle ownership to the culture and the sense of identity of those people. Funnell (1991:92) observed that, since Sibisi's (1979) study of cattle ownership in Swaziland, no modern social analysis of the indigenous livestock sector has been done. This study aims to fill this void.

1.3 Objectives of the Study

There are two major objectives of this study: The first is to explicate the cultural context of cattle ownership in Swaziland.

Secondly, the study aims to test a series of hypotheses to explain value, meaning and household behaviour related to cattle ownership and off-take in Swaziland. These hypotheses derive from the five alternative paradigms that have been used in the literature to explain behaviour related to cattle husbandry in Africa, including Swaziland.

The information emanating from the analysis will provide knowledge of the context within which rural development and, especially, livestock development occurs in SNL by highlighting, among other things, the link between the rural homestead economy and the national economy. The formal, urban sector is a part of the rural homestead economy, a link which is forged through rural-to-urban labour migration, counteracted by the flow of wage remittances from the urban to rural homestead, that tend to be invested in school fees and livestock, particularly cattle. Such an analysis could give policy makers the tools to situate target populations and beneficiaries of development better [Russell, 1984; 1986; Funnel, 1991; Bowen, 1993; de Vletter, 1983; Doran, 1977].

Most livestock development programs failed to meet their target goals because their premise was incompatible with the Swazi rural homestead economy. Policies to aid sustainable development and management of livestock development programs require fuller understanding of the culture of the Swazi people as well as the total rural homestead economy, of which cattle are an integral component. Knowledge of the magnitude and the direction of the causality of changes in the market for cattle and the effect of policy variables on herders' willingness to market their animals is pivotal to any strategy that seeks to boost off-take rates.

1.4 Organisation of the Thesis

With these objectives in mind, the rest of the thesis is organised in the following manner: Chapter 2 reviews the general literature on the subject of low off-take rates in indigenous livestock systems in Africa, including Swaziland. The third chapter will report the methodology and data collection procedures that were followed in conducting the fieldwork for this study. Chapter 4 will offer a description of the 90 rural Swazi homesteads included in this study. It offers an interpretation of the context within which the indigenous livestock system is nested, since solutions to the problem of rangeland degradation will have to be found where the problem occurs and not in isolation from the larger society. Chapter 5 discusses the various forms of cattle off-take in the context of the SNL rural economy, as well as the factors that influence this. Chapter 6, the final chapter, interprets the findings of the analysis of chapter five and draws policy implications for the government's consideration in the light of these findings. Conclusions end this chapter and the thesis.

Chapter 2: Literature Review and Theoretical Framework

2.0 Introduction

The indigenous Swazi livestock sector[20] has attracted significant attention for almost a century [Nguni, 1984; Brokken, 1993; Doran, Low and Kemp, 1979; 1980; FAO, 1994; Sibisi, 1979; 1981]. During the drought of the 1980's through to the early 1990's, the FAO (1994) estimated that more than 100,000 head of cattle died in Swaziland. This drought also focused world attention to the process of desertification[21] a largely man made problem that, once triggered, is self-feeding [Lamprey, 1983; Picardi and Siefert, 1976].

In the literature pertaining to cattle rearing in east and southern Africa, five theoretical orientations are evident: the cattle complex paradigm, the tragedy of the commons, subsistence, the recuperative motive and, economically viable herd size (absence of a surplus argument). The assumption common to all these paradigms is that promoting off-take[22] for commercial slaughter will not only improve farmer incomes, but also promote de-stocking of rangeland, thus solving the problem of land degradation. This assumption, however, has not been supported by hard analysis in other countries, and this issue has never been fully researched in Swaziland [MOAC, 1978; 1991; Nguni, 1984]. In view of these paradigms and the continuing concern in Swaziland about the low rate of cattle off-take and overgrazing, this study examines the extent to which farmers dispose of cattle and the factors that influence this behaviour.

International donor agencies have spent millions of dollars and many person-months in studies and projects geared towards the improvement of African livestock production systems. The high failure rate of livestock development programs to improve the living standards of rural cattle holders and to protect the environment has prompted international development agencies to reduce or abandon funding for this sector. These projects failed to develop grazing systems that limit access to pastures and control stocking rates on SNL (Mulinge, 1995:5). The persistence of overstocking and overgrazing through the colonial and post-colonial period suggests that the theories that informed previous livestock development programs were flawed. These programs failed to bring about envisaged changes of de-stocking the degraded SNL rangelands. The reasons may

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20 This sector comprises the people and their livestock found on Swazi Nation Land.

21 A process characterised by loss of vegetative cover aggravated by the soil's inability to sustain its growth.

22 The official cattle off-take rate is calculated as "the number of cattle sold for commercial slaughter as a proportion of herd size" (Doran, et al, 1979). Only cattle sold and slaughtered at municipal butcheries are included in this calculation, thus ignoring cattle losses from deaths and thefts, as well as cattle slaughtered in the rural areas by their owners, for social and cultural ceremonies. Neither does the concept include the value of flow products harvested by cattle owners throughout the lifetime of the animals, before sale.

lie in their failure to capture some of the basic social and cultural processes, intrinsic to cattle keeping among, the Swazi people.

The theoretical origins of most of the cattle de-stocking programs in Swaziland was modernisation theory. The goal was to transform the predominantly subsistence oriented agro- pastoralist Swazi rural economy to a commercial enterprise, driven by economic rationality, rather than tradition or habit. The stated goal is always the alleviation of rural people's standard of living, through the commercialisation of agriculture using modern technologies. Many statements had Euro-centric undertones and perceived indigenous farmers as ignorant, backwards and lazy (Shultz, 1964).

African and, by extension, Swazi farmers did not respond positively to the modern agricultural technologies. Upon realising this fact, the colonial administration sought the expertise of anthropologists from Europe and the United States of America, [such as Herskovitz (1926), Kuper (1947), Dalton (1961), Cook (1966)] to find out why African farmers did not respond to western development (modernisation) efforts. In other words, the concern was to explain why the invisible hand of the market was unable to steer African rural economies towards intensive capitalist production. The task for these professionals then, was to identify the intervening factors preventing livestock farmers from adopting modern methods of production meant to foster economic rationality to their production processes. Five competing paradigms have been proposed to explain this phenomenon throughout the history of the problem.

2.1 Paradigms for explaining the "Cattle Problem"

2.1.1 The Cattle Complex Paradigm

The work of Herskovitz (1926)--which predates modernisation theory--provided one account of why attempts at introducing modern agricultural technologies might fail. He traced cattle rearing practices to what he identified as the cattle-complex. He suggested that for East and Southern African people, cattle are sacred religious symbols for cultural and spiritual rituals, as is the case among the Hindus. This being the case, cattle owners were neither predisposed to using them for economically productive functions nor to parting with them, through sale or slaughter. He concluded that, in these societies cattle were not viewed as a means of production, but as prestige goods and as such, their importance for consumption was less than their ceremonial value (Hedlund, 1979). Through generosity and reciprocity, ceremonial value translated to power and status. Large herds accord the owner high status. These features of the culture of cattle ownership he defined as the cattle complex, which was seen to account for cattle owners' defiance of expert advice to cull their herds (Mtetwa, 1978; 1982).

In other words, the sacred position of cattle was concluded to be responsible for the Swazi peoples' lack of a positive response to incentives meant to persuade them to keep smaller herds, composed of young cattle. It also provided

an explanation why they kept old and emaciated cattle, beyond the age of 2 years or 300 kg, which livestock specialists considered the optimum. Ultimately, the cattle complex served to explain the failure of Swazi farmers to sell cattle regularly to the beef market, even when prices increased and thus, the failure to modernise the beef industry.

Subsequent anthropological research criticised Herskovitz for exaggerating the religious role of cattle and minimising their subsistence role. Schneider's (1956) empirical work revealed that only a few cattle within individual herds were assigned religious roles. Such an animal is kept by some rural homesteads, and is referred to as the ancestral beast (*inkhomo yemadloti)*. It is usually male, is idle, never put to any productive use, nor whipped if it engages in destructive behaviour, such as eating crops. It is never killed or sold, but left to die of natural causes, whereupon it is eaten in a feast. Though true, this practice is usually the prerogative of wealthy homesteads, that is, those with large herds that can afford an animal designated for this role in their herd. Using herd-structure data, Schneider (1956) further illustrated that, while female cattle were retained, males were regularly slaughtered or sold for subsistence.

This shortcoming not withstanding, the anthropological literature continues to relegate the economic importance of cattle to a secondary position. Emphasis continues to be placed on the argument that cattle are merely possessed and esteemed for the prestige their possession brings. It is still argued that cattle are an end in themselves. In agreeing with this argument, Livingstone (1977) asserts that apart from the indirect benefits they provide, cattle also yield direct utility to their owner as a form of demonstrable wealth and a source of prestige. He also argues that if this motive is labelled irrational, it is no more irrational than the purchase of large houses and expensive cars in the western world.

The cattle complex paradigm argues that large herds accord their owner status. Cattle should not only be viewed as a means of production, but also as prestige goods and objects of mystification (Hedlund, 1979). Prestige goods are products whose importance for consumption is less than their ceremonial value. Through generosity and reciprocity, ceremonial value translates to power and status. Homesteads with large cattle herds loan some cattle to those with none. These loans create a social debt to the giver. A decline in the herd size can imply a decline in the ceremonial fund to the owner, and this can prompt economic isolation. In a patron-client based rural economy, such isolation can result in production hardships (Wolf, 1966). A noteworthy point is that a large herd, per se, does not generate prestige. It is only through generosity that the size of the herd converts to power and prestige. Furthermore, prestige can be a means to an economic end (Sibisi, 1979, Fidzani, 1993). This is a fact that Herskovitz overlooked in his analysis.

In Addition, contrary to the Hindu practice, where cattle roam the streets apparently not put to any productive use, cattle are productively utilised in the

Swazi rural economy. They pull the plough and carry goods; they produce milk, dung/ manure and the skins produce various articles, mainly traditional dress. Swazi people kill cattle and enjoy beef (Huss-Ashmore, 1994). Cattle are exchanged for money, food other stock as well as for wives, through bride wealth. Like any other commodity, cattle are also sold, maybe not as regularly or in the volumes desired by development experts. Nevertheless, usually foreign experts make the arbitrary suggestions, and locals tend to acquiesce, believing foreign experts know better. Rather than putting the issue in perspective, some even join the condemnation of the Swazi herder, preferring to pretend to be oblivious to the context under which this practice occurs.

Several Swazi customs and cultural ceremonies require bloodletting to authenticate the occasion, especially where the blood itself is used as part of the ritual. In the exchange of cattle for a bride (bride wealth), for example, the groom has to give his bride's mother a live heifer (*insulamnyembeti*). As well, regardless of how the balance of the bride wealth transaction is conducted, at least one head of cattle is killed at weddings conducted under Swazi law and custom, where the fresh blood is used to cement the marriage (Engelbrecht, 1930; Mbatha, 1983). One cannot, for instance, buy meat from the butchery and bring it to the wedding. Through the practice of ku*sisa*, Swazi people with large herds of cattle may lend some animals to poorer friends and relatives. It is customary practice to kill a head of cattle during a funeral and almost everyone, including those who do not own cattle, does find an animal to kill to honour their departed relative. Again, it would be a source of shame and embarrassment for those left behind to fail to obtain and slaughter a head of cattle for this ceremony. This is a sentiment shared by all Swazi people, across educational and income levels or, place of residence. Ancestral ceremonies and traditional healing procedures also require live cattle for authentication.

What Herskovitz mistook for a cattle-complex was evidence of the subjective meanings and values bestowed by cattle ownership on the cattle owner and which the owner, in turn, values about his cattle. These sentiments have nothing to do with worship and sacredness of cattle in Swazi culture. Beef is a national delicacy. In fact, the cattle owner who kills an animal and invites his neighbours for a feast is highly regarded as being a generous person in the community. Such high regard makes a person feel good about himself. It can also open many doors for the benefactor, for example, politically--as high appointments to the chiefs' advisory council or as a parliament member, representing their community. Socially, a generous man may attract more riches in the form of brides--and hence, children--who are offered to him by their fathers, believing that he can look after their daughters well.

As long as these socio-cultural markets for live cattle remain prevalent and continue to be accorded high esteem by the majority of Swazi people; cattle will be hoarded over longer periods than is technically advisable. This will have a

negative impact on cattle sales. Swazi people do not keep cattle just for the "traditional" reasons of prestige or worship or the other pejorative terms that development experts have attributed to the practice. Cattle fulfil a very important and crucial role in the SNL subsistence economy. Their owners do dispose of livestock if and when, the situation warrants it.

2.1.2. The Tragedy of the Commons Paradigm

The second pertinent theory, sometimes also referred to as a free-rider problem, traces its origins from an article by Hardin (1968). To illustrate the "tragedy of the commons" phenomenon, this author used the example of a cattle herder grazing cattle on range land, devoid of rules governing access to and usage of the range land. According to this perspective, the source of the overstocking/overgrazing problems is the institution of land tenure obtaining in many African societies, which operates as an open access regime. Its point of departure is that open access to rangeland is responsible for herders' reckless use of the land resource since adverse effects on the rangeland resulting from bad decisions of any one herder do not fall on that particular herder alone, but on all those using the resource.

Each herder, grazing his cattle on common range land, is tempted to increase the size of his herd, since the costs of doing so in terms of loss in productivity and decline in animal quality are borne by all cattle holders using that rangeland. However, the individual who keeps an additional animal, bags all the profit. As such, the benefits he reaps from the additional animal will always be higher than the cost to himself for each animal he adds to his herd. Consequently, each herder will always be tempted to increase his herd. Eventually, this exceeds the rangeland's carrying capacity with this overstocking causing overgrazing and rangeland degradation [Gordon, 1954; Demsetz, 1967].

The absence of rules governing access, as well as the absence of acceptable standards of use or limits on the numbers of cattle grazing on any particular piece of land tends to encourage behaviour such as herd size increases. It may also hinder good decisions that benefit the resource under usage, such as maintenance of smaller herds or practising rotational grazing. These are behaviours which a herder bearing all the costs of his bad decisions would normally, adopt. Gordon summarises this process by stating that

> Everybody's property is nobody's property...wealth that is free to all is valued by none, because he who is foolhardy to wait for its proper use will find it has been used by others (1954: 135).

Inspired by the need to eliminate the divergence between private and social goals, development programs informed by this perspective envision the salvation of the commons to lie with privatisation of land. It is envisaged that title to a piece

of land will force individual herders to internalise the costs, thereby compelling them to behave in an economically optimal manner, that is, with responsible usage of resources. The assumption is that once herders have title they also have the right to exclude other users from their piece of land and, they manage resources in a responsible manner. Communal grazing, which is largely the norm in east and southern Africa region, was identified as the major institution supporting this behaviour [Cheung, 1970; Demsetz, 1967; Posner, 1977].

This argument provided policy makers with the much sought after piece to the puzzle of East and Southern African stock owners' apparent preference for large herds rather than fewer animals of high quality, coupled with their reluctance to sell cattle. It provided the "scientific" backing the colonial administration needed to embark on land reform programs, which issued titles to holders of specific pieces of land, for their exclusive use.

While the World Bank and bilateral agencies such as the USAID have also subscribed to this prescription, it has failed in East and Southern Africa [Hitchcock, 1981, National Research Council, 1986; Behnke, 1984]. In fact, it has exacerbated the overgrazing problem through increased inequality and poverty. Despite the technical orientation of these projects, most African herders have not viewed the enclosure campaign as a technical issue involving animal management, but as a political issue involving reallocation of control over land and water [Nguni, 1984; Behnke, 1984].

Criticism of this paradigm arises on both theoretical and empirical grounds. To explain the ability to use private rather than social costs the tragedy of the commons paradigm defines two axioms. First is the composition axiom, which requires complete control of a resource to be vested in a well-defined group for socially efficient use to be possible. Second is the authority axiom, which requires the well-defined group to act for a unified purpose (Larson and Bromley, 1990). The property rights in a common property regime are such that the divergence between social and private costs disables the authority axiom. This leads to overstocking and, eventually, to overgrazing.

Theoretical criticisms of the paradigm also point out that the alleged free-rider problem results from a confusion of free (open) access with common property [Runge, 1991; Larson and Bromley, 1990; 1992]. In other words, the situation described in the tragedy of the commons perspective is that which would occur in an open-access land use regime. While open access refers to unrestricted entry coupled with the total absence of rules governing subsequent use of a resource, common property refers to a tacit co-operation by individual users to a series of rules. Therein, lie the most profound flaws in the application of this perspective to the use of SNL rangeland.

The basic assumptions of the tragedy of the commons scenario may be valid when applied to an open-access land use situation. The same argument is flawed when assessing conditions of access and use of communally held and

exploited resources, as is the case with SNL rangeland. Runge (1991) and Larson, et al (1990) argue strongly that the commons paradigm uses the wrong tools (open access model) to analyse a common property issue. Because of the existence of indigenous institutions, each herder has to take into account the reaction of other herders to his actions. As such, individual actions are governed by the uncertainty of other herders' reactions.

2.1.3. The Store of Value or Subsistence Paradigm

Cattle are highly versatile economic and social goods. As repositories of value, cattle are sold to meet immediate cash needs. While the general question of supply and demand has always dominated research on rural development, emphasis has tended to be on the response of crops more than on livestock. Recent keen interest in the livestock sector has revealed that herders may respond negatively to increases in price for an animal, for instance- the so-called backward bending supply curve [Horowitz, 1979; Fidzani, 1993; Doran, et. al. 1979, 1980].

The physiological ability of cattle to reproduce themselves, combined with their capability to be used in other productive activities such as arable agriculture, creates a steady flow of income for their holders. More importantly, cattle directly provide for the sustenance of human life through milk, meat, hides and, insurance. In fact, it is the flow products that cattle owners value most in their cattle (Funnel, 1991: 88). Behnke (1984) succinctly sums up this argument by observing that

> An animal's eventual death or slaughter (often in anticipation of death) is simply the last stage of its productive career. This pattern of animal use tends to postpone the age of sale beyond the optimal age of slaughter, thereby producing the skinny, old toothless, cull animals found in many African markets (p.268).

Whereas a commercial producer cannot realise a profit from his animal until he disposes of it, the Swazi homestead will want to hold on to its animals for as long as possible while harvesting flow products from it. In view of all these benefits, the subsistence paradigm seeks to explain the disposal of cattle in terms of subsistence requirements of cattle keeping homesteads. From this view-point, indigenous cattle keeping is not a capitalistic venture aimed at producing a marketable surplus, but one of providing a secure flow of food and services to the homestead, from one period to another [Widstrand, 1973; Brokken, 1993]. Because of its subsistence orientation, rural cattle keeping homesteads employ and directly feed more than the commercial livestock system [Ingold, 1980; Dahl and Hjort, 1976]. Hedlund (1979) even argues that the strong need for rural homesteads to build up their populations, coupled with the crucial role cattle play in the process of human life sustenance, has resulted in the quest to accumulate herds.

Cattle are capital assets and are managed as such throughout the world (Earth Watch, 1991). For a cattle owner grazing SNL range lands, the significant marketing issue is: will I be better off if I sell this animal now or keep it one or more time periods for use of its services and products. Marketing decisions are regarded as those pertaining to whether the present value of retaining the animal for one or more time-periods exceeds its present market vale. If it does, the animal is retained in the herd. If it does not, then it is sold. Included in the equation for its present value is the value of all products and uses, including utilities derived from ceremonial, prestige and many other reasons to which the animal may be kept, as well as its expected sale value.

Herders seek to maximise the expected value from their herds. Herd composition plays a crucial role in this maximisation process and it is governed by the allocation of animals to various uses. Such allocation depends on marginal utilities of different products from the herd. For example, when the demand for milk is greater than its supply, the herd composition changes in favour of milk animals. Similarly, homesteads that require more draught power have a composition that places emphasis on male cattle. It is rational to keep old oxen in an arable agriculture-dominated sedentary rural economy, such as SNL.

The cattle as assets argument contends that if farmers perceive the price to be high, the value of cattle increases and this leads to hoarding of cattle in the hope of increasing future earnings, thus leading to herd accumulations [Jarvis, 1967; 1980; Doran, et. al. 1979; 1980]. Communal use of rangeland facilitates this behaviour as stock owners can add more animals on the common range without absorbing the full (negative) impact, yet harvesting all the gains from the additional animal.

Another persuasive argument of this paradigm regards the absence of a marketable surplus in indigenous rural livestock systems. While it is true that the total national herd exceeds land carrying capacity, it does not necessarily follow that homestead herds exceed the needs of their homestead members. It is pertinent to consider the distribution of herd ownership. The national herd may be excessively large, but it may be comprised of predominantly small economically non-viable homestead herds, which cannot produce a surplus. The end-result is low off-take.

Behnke (1984) argues that the process of commercialisation sought by the modernisation of rural economies may actually accentuate low off-take rates. The commercialisation process involves the transformation of cattle into marketable commodities. This inevitably entails reducing the use of the herd for other products and services. For example, a commercialising herder would have to emphasise less milk or draught power as the competition between humans and calves for milk or the need for draught oxen retards animal growth and weight gain. Giving up milk and oxen increases the homesteads' need for cash to purchase these products and services. The homestead would need a herd large

enough to provide a marketable surplus and at the same time maintain enough breeders in the herd. The early stages of commercialisation require cattle accumulation.

Furthermore, as a process, commercialisation entails increased individualisation of the social system, which inevitably destroys indigenous institutions of reciprocity and generosity--such as *kusisa*. Borrowing becomes more difficult; thereby forcing individuals to emphasise herd accumulation to foster independence. This results in reticence on the part of herders to market their cattle.

Environmental economists have linked the absence of a marketable surplus to environmental degradation [Perrings, 1987; Larson and Bromley, 1990]. They argue that poverty--the lack of marketable surpluses in the rural livestock industry--results in the degradation of the environment. The policy implications of this argument are that cattle off-take rates may be increased through policies not necessarily directly related to the livestock sector alone. Macro-economic and other policies addressing the problems of poverty may reduce the strain on natural resources by reducing the dependence on cattle by rural homesteads.

The use of cattle as a store of value coupled by the ease with which cattle can be sold leads cattle owners to sell only when specific cash needs arise (Doran, Low & Kemp, 1979). Given the fixed and limited nature of cash needs among rural homesteads, any factor that increases the cash value of cattle enables herders to meet their cash needs by selling fewer animals. Akin to the predictions of the capital asset theory, the supply response in the case of increased price is "backward bending".

2.1.4 The Recuperative Power or Precautionary Motive Paradigm

From the observation that, in most instances, the total supply of livestock exceeds the population's current consumption requirements, other researchers have argued that the subsistence paradigm does not adequately explain livestock accumulation. They contend that the desire for large herds emanates from a quest for security, insurance against loss and the need to recuperate after a major herd loss, following a drought, for instance [Spencer, 1965; Desshler, 1965; Dyson-Hudson, 1966; Karp, 1981]. Karp (1981) calls this the "precautionary motive" to accumulate cattle. This need is precipitated by the prevalence of droughts and disease epidemics, which have taught cattle holders to hold large herds as a hedge against these calamities in order "to be on the safe side" (Mace, 1991 and 1992).

The larger the herd, it is argued, the greater the probability of a sufficient number of cattle surviving a serious drought and thus, providing the homestead with the means for subsistence and the capability to rebuild its herd (Konczacki, 1980). Dahl, et al (1976) coined the concept of a "fallow herd" to refer to the proportion of the herd that is not currently utilised but which may be needed later for purposes of rebuilding a herd, following an epidemic or a drought. Using

empirical data from Botswana, Devitt (1978) showed that during the drought of 1969-74, homesteads with small herds were more susceptible to drought, while those with larger herds were more robust. While large herds suffered spectacular losses during the drought, they tended to rebuild faster than small herds which, in many cases, were completely annihilated.

The quest for security and recuperative power explains the seemingly irrational disregard for the quality of cattle kept [Doran, 1994; Brokken, 1993, 1996; FAO, 1994]. Bremaund and Pagot (1956) point out that herders deliberately keep old cows and oxen because, having survived earlier epidemics, they are more likely to survive later ones. It can be argued further that high quality exotic breeds are more susceptible to local diseases and require more forage due to their heavier weight than the local range can provide. They are deemed ecologically unsuitable and thus, avoided by herders. Labelling the disregard for "quality" by indigenous herders as irrational and uneconomic is a result of the mistaken notion that physical productivity of cattle is the only test for a herd's economic efficiency. Alternatively, that it is the only goal sought by rural homesteads [Karp, 1981; Nguni, 1984].

The disparity in resilience and robustness between small and large herds can be explained in different ways. For instance, when drought sets in, households with small herds are more likely to start selling the nucleus of their breeding stock than households with larger ones. The latter has the fallow herd to fall back on. As well, competition for animal products and services such as milk and draught power between humans and animals will be more acute in smaller herds, thus making them less resilient to disease and drought than animals in a large herd. This likely explains the higher mortality rates in smaller herds. The quality of management varies widely between small and larger herds. While part of a large herd can be sold to provide supplementary feeding as well as purchase veterinary medicines, small herders can not afford to do so, unless they have access to off-farm remitted income. This too, would make a difference on the drought or epidemic survival rates.

2.1.5 The Economically-Viable Herd Size Paradigm

Empirical work on the Swazi Nation Land livestock sector has determined that, owing to the existence of fixed costs in this sector, there exists a minimum herd size below which cattle keeping is not economically viable [Fidzani, 1993; Biotechnology, Ltd., 1991]. An economically viable herd size is perceived as one that generates positive real income and is large enough to sustain the breeding core during a drought. According to Hubbard (1986) small, non-viable herds, coupled with the unreliability of arable agriculture, prompt indigenous Swazi herders to employ a diversified strategy. The accumulation of cattle is a part of that strategy.

Bailey's (1982) work in Botswana showed that people hold cattle for a multiplicity of reasons, some of which contrast each other, while many of them can

be achieved only through a large herd. For example, there is the need to plough with cows against the need to protect the breeding nucleus. Alternatively, the need for agricultural credit loans contrasts with the low value imputed to cattle pledged, as collateral or immediate cash needs balanced against the need to prepare for drought. Small herds have been found to be less productive and are vulnerable to drought and disease, as well as liable to decrease yearly [Sibisi, 1980; Doran, et al 1979].

Carl Bro. International (1982) found results indicating that the need to fund immediate cash requirements by selling cattle among small herds severely erodes herd viability, thereby creating a vicious circle which is difficult to break provides corroborating evidence. Herds of less than 10 cattle can only contribute a maximum of two oxen to the homesteads' ploughing team. The rest have to be either cows or immature or borrowed cattle. Bailey (1982) argues that accumulation, or even maintaining the herd size is extremely difficult for this group. McGowan, et al (1980) point out that this group is almost completely dependent on its cattle unless it has access to off-farm income opportunities. For this threshold, cattle sales were prompted by immediate cash needs and emergencies.

Most studies concur that a herd of 20 to 40 cattle is the minimum requirement for economic viability in a pure pastoral economy, a study conducted in Swaziland recommended 14 cattle as the minimum economically viable herd size [Vierich, 1979; Hubbard, 1979; Carl Bro. International, 1982]. Given the agro-climatic, social and economic conditions obtaining in an agro-pastoral economy, these authors felt that the lower figure was more realistic. A herd this size could sustain a span of four oxen, which is the minimum number required to pull the plough given the soil structure found in most of Swaziland. It can also provide two milking cows and their calves; one animal for emergency sale; another for ceremonies, such as a funeral and four weaners--made up of two breeding heifers (nucleus) and two untrained steers (Biotechnology International, 1991). A homestead with this herd size can plough without damaging its breeding nucleus and the herd size is robust enough to survive a drought. Sales are still irregular and motivated by cash needs and emergencies, rather than by a desire to cull the herd.

2.2 Summary

This summary highlights the major points raised by the five paradigms reviewed in this chapter. That cattle accumulation in Africa is explained by different paradigms has been demonstrated in the preceding literature review. It is clear that no single paradigm can cover all the aspects of herd building among African herders. The construction of a meaningful conceptual framework must fuse ideas from the various strands of the literature. Some of these paradigms make two major assumptions, however, that render them inapplicable to Swazi Nation Land.

First, is the assumption that cattle are reared mainly for beef. The literature review has shown that cattle are not just beef or money in the pocket to their African, and by extension, Swazi owners. Both the subsistence and the recuperative motive paradigms have pointed to draught power, milk, manure, insurance, etc. as major reasons for holding cattle. If these are to be included in the objective function of the herder, the optimal slaughter age rises significantly. Secondly, that cattle are fed the optimal input bundle. Prevailing conditions in Swaziland as specified under the tragedy of the commons paradigm render this assumption invalid. Communal grazing makes it impossible for the cattle owner on SNL to regulate his inputs as cattle graze communal rangelands.

This study does not aim at the construction of a new theoretical framework to explain low off-take rate on SNL. The aim is to draw hypotheses from each of the cited paradigms and test them to see how applicable they are in explaining the low rate of off-take--in terms of cattle sold for slaughter--on SNL. Several hypotheses derived from the literature surveyed will be tested. One useful point pertinent to cattle accumulation in Swaziland that emerges from the literature review is that different types of cattle are used differently to respond to changes in market forces. Hence, the collected data must be broken down by herd-structure if the supply response is to be correctly captured. This requires data on the type, age, and ownership of each animal in the homestead kraal.

The socio-economic diversity of cattle owners makes this point particularly important to cattle supply response in Swaziland. Economic development in Swaziland has brought increased monetisation of the rural sector. Consequently, there has been increased dependency on goods from the formal sector; the most significant of which has been education. To the extent that these goods need to be purchased, and only through money, cattle have had to be sold. This suggests that the arguments of the cattle-complex literature have been overtaken by events; are thus, out-dated and no longer appropriate. Cattle are primarily used for economic purposes and, if they play any prestigious role, this is secondary to the various social and economic values that accrue from it. As clearly argued in the literature review, failure to market cattle may be a result of the features of a subsistence good, the cattle ownership status or, the need to prepare for an uncertain future.

While it is true that failure to internalise costs due to the communal land tenure system may encourage herd accumulation, empirical evidence suggests that enclosure is not necessarily the answer to this problem. Doubt has been cast on the ability of herders to realise that range degradation is consequent of their own action. The answer here may lie with public education, the revival, and strengthening of indigenous, regulatory institutions, and the improvement of economic opportunities and situations of those in the rural sector.

Chapter 3: Methodology and Data Collection

3.0 Introduction

Social science research is conducted in two basic and major orientations: quantitative and qualitative method. Kirk and Miller (1986: 9) define the qualitative research method as a particular tradition in social science that fundamentally depends on watching people in their own territory and interacting with them in their own language, on their own terms. Qualitative research, which is usually conducted for exploratory and descriptive purposes, is most common in anthropology, history, and political science [Denzin & Lincoln, 1994: 6].

Both quantitative and qualitative methods of data collection were used for this study. These approaches, together with extensive content analysis of written material, were the bases for a process of triangulation. This study was grounded on the Weberian methodological technique of Verstehen due to the belief that this was the most appropriate approach in order to glean the subjective meanings and values that Swazi people individually attach to cattle ownership. For the purposes of this study, the ultimate unit of analysis was the individual acting persons. This made imperative the choice of face to face interviews with individual cattle owners as the most appropriate method to use for the study [Craib, 1997; Runciman, 1978; Coser, 1978; Ritzer, 1991; Kasler, 1988]. The study relies on the stories that cattle owners told about their experiences with cattle and cattle rearing under the customary land tenure system.

This approach is particularly appropriate given the absence of studies that approach cattle ownership among Swazi people from an open minded and objective analysis--Verstehen--of the socio-cultural and subjective meanings of cattle ownership to the indigenous Swazi people. Since the colonial era, whenever mention is made of the subjective values that Swazi people ascribe to or derive from their cattle, it is always with derision, usually expressed in condemnatory terms. Unfortunately, the educated local Swazi elite has adopted this stance as well. The behaviour of the indigenous Swazi cattle holder is described as traditional, outdated and archaic, and as a source of frustration and a hindrance to the government's goals of "developing" the indigenous Swazi livestock industry.

Curiously, the frustration with and condemnation of the cattle owners' behaviour are made without bothering to talk directly with cattle owners, in order to find out why they act the way they do. The Swazi elite claim to have inside knowledge of what is going on "out there" that is, why cattle owners behave the way they do, by virtue of having spent their youth herding their fathers' cattle in the rural areas. This experience makes them privy to how rural people think, which is why they feel they can predict or explain rural peoples' actions, and formulate policies to effect changes to these actions, without the benefit of thorough primary research. The problem is depicted as lying with the tradition-bound, rural dwellers that own and keep cattle. The irony is that the elite, among

themselves, own large numbers of cattle, which have been *sisa*'d with some of those rural homesteads that are vilified as the irresponsible opportunists and destroyers of Swazi nation rangelands. Research into this issue is considered a waste of time.

With such a background, it was important that original, primary data be collected for the thesis. Questioning and listening to the voices of cattle owners directly was crucial in order to glean the meanings and values behind their observed action--to keep cattle. These factors may turn out to be the missing part of the puzzle or the "problem" of low cattle off-take. Hence, between December 1996 and May, 1997 the fieldwork which forms the basic source of data used in this thesis, was undertaken in Swaziland.

3.1 Laying the Groundwork

Upon arrival in the country, meetings with several officers were arranged. These included the Senior Agricultural Economist, the head of the Economic Planning and Analysis Section, the chief researcher's home department at MOAC. The research proposal was discussed at length, especially the resources necessary to carry out the survey successfully and the kinds of support expected from the department. These included a car; gasoline; a driver; secretarial services for typing the questionnaire, and a few enumerators to help with the interviewing, including logistical support. Due to the recently introduced World Bank Structural Adjustment Program--related cuts in government spending, the departmental budget had been streamlined so much that even studies that were on stream for the financial year were barely provided for financially. This posed a problem for this work.

All the enumerators employed by the ministry were already engaged in on-going studies and were unavailable to assist with the interviewing. With only the five months allowed by the Canadian Commonwealth Scholarship and Fellowship Fund for out-of-Canada fieldwork, it would be difficult to complete all the interviews envisaged in the proposal. Upon reaching this impasse, the Principal Secretary was approached to appeal for ministerial assistance with the fieldwork. He welcomed the selection of the research problem, and viewed the proposal as having the potential to assist the Ministry refine its policies on one of the most crucial, yet socially and politically thorniest issue in the ministry's mandate. This policy problem is how to effect a higher cattle off-take rate from Swazi Nation Land, in order to harmonise the development of the country's livestock industry with environmental concerns.

3.1.2 The Diagnostic Survey

Informal discussions were held with government officials; chiefs; front line extension workers, as well as cattle owners, in order to find out the important issues in the indigenous livestock industry, beyond overstocking, overgrazing,

dipping chemicals and de-stocking. Discussions were also held discussions with veterinary assistants responsible for the actual dipping and veterinary care of cattle on SNL on dip days, cattle owners who had brought their cattle for treatment. This activity was meant to find out the salient issues deserving further investigation that might not have been included in the proposed research, after being away from the country for three years. This process helped in focusing issues for inclusion in the subsequent interview schedule, as well as point out sensitive areas.

Potential research assistants were interviewed, maps obtained, and stationery purchased, enquiries made from motels and training centres were, for their rates. Visits to the selected dip tank areas were arranged with each veterinary assistant to facilitate the use of the register of cattle owning homesteads to take a sample of kraal numbers. They were also asked to announce the pending interviews on dip days, when herd boys bring cattle for the weekly treatment.

3.2 The Unit of Analysis

The indigenous livestock sector obtaining on Swazi Nation Land, was the universe of the study. Since this study is primarily concerned with cattle ownership and management, only homesteads with cattle were included in the sample. This was the population from which the sample of 90 cattle-keeping homesteads was drawn, and to which generalisations of the results of this study will be made. The holders and owners of cattle that graze on SNL are the unit of analysis. One member knowledgeable about the affairs of each homestead was asked to provide information about various aspects and activities of the components of their homestead, by responding to questions in an interview, for a total of 90 respondents.

Although the population census indicates that there may be more than one household nested within homesteads, this study looked at a homestead as a single economic unit. Culturally, a Swazi homestead has only one kraal, irrespective of the number of households or people who own individual head of cattle in that kraal. At the dip tank, the herd is registered under the name of the head of the homestead. Livestock products, such as milk, manure, and draught power, are used in common by all members. Hence, although the Central Statistics Office has established a tradition of breaking down homesteads into their constituent household units--where such exist--when collecting national statistics, this was not done in this study. Being a preliminary investigation of cattle ownership and management in the rural homestead setting, the use of the homestead as a unit of analysis was deemed adequate for this study. Sampling proceeded as outlined below.

3.3 Sampling Procedure

The main objective of the sampling process was to provide a sample large and representative enough to yield reliable statistical analysis of the collected data.

The first decision involved determining the sample size. This decision was also considerably influenced by the budget and time constraints. Because of these constraints, it was decided that one per cent of the cattle holding homesteads in the Middleveld would be sampled, which yielded 90 homesteads. This sample size would enable statistical analysis as well as the completion of the interviews within the time and budgetary constraints.

3.3.1 Selection of Study Sites

Primary data collection always involves a trade-off between undertaking an intensive study in a small geographical area versus a broader examination of a larger area. The former has the strength of capturing many important details but suffers the weakness of being limited in its applicability. While the latter produces data with wider applicability, it lacks details. In this study, an attempt was made to balance these two requirements by purposely selecting an area, study sites and homesteads that would be representative of the characteristics pertinent to the objectives of the subject of cattle ownership and off-take rates, on SNL.

Swaziland comprises four distinct climatic, ecological and topographic zones, running from north to south. The Highveld is to the west of the Middleveld, Lowveld and Lubombo plateau are to the east, see (Figure 1). Each of these zones has distinct vegetation and rainfall patterns. The investigation focussed on one ecological zone only: the Middleveld. The Middleveld lies east of the Highveld and covers 26 percent of the total land area or, 4700 square kilometres. It is generally hilly, with several large valleys. The climate is sub-humid with summer rains falling in the range of 570-1200mm. About 20 percent of the Middleveld is good to fair arable land. This zone is the most developed and densely populated in the country. Agriculturally, the Middleveld is the most advanced, with estate production of citrus fruits and pineapples as cash crops produced for export. Cotton, maize, tobacco and ground nuts are the main crops produced on SNL[23] as well.

The Middleveld region was selected as the research site for several reasons: a) it has the highest concentration of SNL-40 percent of the total land designated as SNL, b). It supports the highest number (42%) of indigenous small holder farmers. c) It has most of the communal grazing (Figure 2). d) It also has the highest number of indigenous Swazi cattle (see Table 1) and is thus, the most intensely grazed, and the worst degraded (Figure 3). f) It is also the most densely populated--with humans--of the four regions.

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[23] The agricultural sector in Swaziland is dualistic. On the one hand, there are few large-scale plantations and ranches using modern farming methods and producing primarily for the market, mainly foreign markets. There are also many small holder farmers with usufruct rights to Swazi Nation Land, who rely mainly on more traditional farming methods and implements and produce some cash crops as well as food crops and raise animals, primarily for subsistence.

During the diagnostic survey, it was decided to select four study sites i. e. four dip tank areas: two from the wet and another two from the dry Middleveld, spanning the north to south length of the Middleveld region. Dip tank area refers to an area with a radius of twenty-five kilometres serviced by one dip tank. Homesteads that fall within this radius have to send their cattle for a weekly (in summer) and biweekly (in winter) dip to their area tank, which is filled with chemicals diluted with water for the prevention of tick-borne diseases.

Discussions were held with various people regarding their opinions about the condition of local rangelands in the rural areas visited. Especially, the views of front line extension workers were solicited in order to refine the site selection process. The mapped version, wherein the Middleveld region is divided into the 'wet' and 'dry' zones, plus the number of cattle serviced by a dip tank were used as proxies for grazing intensity/stocking levels. Using a table of random numbers, twenty-five kraal-numbers were selected from the register of each of the selected dip tanks. (See figure 1: map showing agro-ecological zones and the location of the study sites or dip tank areas).

The next task was to break down the selected region into three clusters, representing the climatic and range conditions, as well as the herd distribution and grazing intensity on the indigenous rangeland throughout the region. Three dip tank areas were selected to cover the spectrum of range conditions in the Middleveld, as shown on Figures 2 and 3. Thirty cattle-keeping homesteads were randomly selected from the veterinary assistants' (VA) dipping record books, for 90 homesteads-using a table of random numbers. Three study sites and 30 kraals in each site were included in the final investigation. Between January and May, 1997 ninety (90) interviews were conducted with cattle holding homesteads in the Middleveld region.

3.3.2 Selection of Homesteads

A stratified, random sample of cattle-holding rural homesteads was taken for inclusion in this study: were included in the sample frame. The initial selection of homesteads was by dip tank number. A single dip tank services livestock holding homesteads within a 25Km radius. Dipping cattle is compulsory for all cattle kept by rural homesteads grazing cattle on SNL.A veterinary assistant (a civil servant) is responsible for mixing the chemicals and overseeing the dipping process. He also keeps comprehensive and up-to-date data on the cattle herds under his supervision.

An accurate roster of cattle holding homesteads is kept in a computer file at the Data Processing Unit (DPU) of the Ministry of Agriculture. Homesteads are listed by census number, which is also used for identifying their herd at the dip tank. The consistency in using the population census number facilitates the location of homesteads exactly using aerial maps from the Surveyor General's office and the Central Statistics Office (CSO).

The interviews were conducted at the cattle owners' homesteads. The head of the homestead was the target respondent. Upon arrival at a homestead in the sample, this individual was sought out for the interview. If they were not home, as was the case in some of the homesteads, the wife(s) was asked to answer questions in the interview schedule. In a few cases, any other adult member of the homestead available that day who was knowledgeable about the cattle in the kraal was interviewed. Some homesteads had to be revisited either because, in the middle of an interview, the respondent would realise that they did not know some of the details, such as the ownership of individual cattle. Alternatively, because they were not sure if they should divulge the details. On other occasions, a person would say that they were in a position to answer the questions, then turn out not to know much. If too many responses were 'don't know', on issues crucial to the study, return visits were arranged, so that someone else who was more knowledgeable would be interviewed.

3.4 Questionnaire Design

Various instruments are used for collecting qualitative data involving either intrusive or unobtrusive methods. Intrusive methods include structured and unstructured interviews; focus groups; key informant interviews; participatory as well as rapid rural appraisals, sociometry and ethnographic research methods. Unobtrusive methods are methods of observation that remove the observer from the set of direct interactions or events under study [Denzin, 1994: 256; Webb et al, 1966: 1]. Included in this type of research method are archival materials, trace analysis, historiography, content/ textual analyses and documentary research, which involves the selection of facts from documents.

An interview schedule, with aspects that were deemed germane to issues of off-take rates raised in the literature review was designed and administered to the selected homesteads. The bulk of the data used in this thesis was collected through an interview schedule, since the aim was to allow flexibility and direction in the interaction between the interviewer and respondent. Following Gladwin (1989) and Merton's (1956) recommendations for conducting the ethnographic and the focus interview, respectively, open-ended questions were posed to the interviewee, since these facilitate in-depth interviewing. Mishler (1986) recommends that the interview should emulate a natural conversation as much as possible if it is to yield sensible information. Such a discourse would, in turn, facilitate probing and interviewees' responses would not be constrained by predetermined, pre-coded categories.

The goal was to draw out information concerning the homesteads' cattle and to learn at what level, if any, a homestead could become a commercial cattle farm. That is, whether there a typical rural Swazi homestead reaches a stage when it has excess, "non-productive" stock--where it has more cattle than the needs of its members--in its kraal. If there were such homesteads, their members would be

amenable to advice urging them to commercialise its livestock operations, as envisaged by the government and development experts.

Although two indigenous Swazi people would conduct the interviews, it seemed prudent to translate the schedule, into *siSwati* and conduct the interviews in the local language. This was to minimise errors arising from inconsistent translation of questions and thus, ensure the internal validity of the instrument. A siSwati teacher at a local high school was engaged to translate the instrument from English to siSwati. A colleague in the Ministry of Agriculture and Co-operatives translated it back to English. The three versions of the schedule were then compared to ensure the questions were asking for the same information. All versions were read and the best-worded versions of each question were selected for inclusion in the final interview schedule.

The major issues addressed in the interview schedule include homestead demographics and employment; income sources and production constraints; the various uses of cattle by homesteads; the prevalence of the custom of *sisa*; *bona fide* cattle ownership; herd composition and herd management; cattle sales and purchases; attitudes towards the communal use of land, particularly range land and the question of gender and cattle ownership. Data was also collected on non-livestock and socio-economic indicators, such as the quality of the homestead's housing; ownership of basic agricultural implements; experience with formal credit institutions; sources of income; prevalence and attitudes towards germane indigenous social institutions, such as *kusisa, kwetfula, kuhlehla* (tribute labour) and popular Swazi beliefs such as 'cattle belong to the king'. See Appendix 1 for a copy of the complete code sheet of the interview questions.

3.4.1 The Pre-test

The interview questions were edited, the research assistant trained and the interview schedule pre-tested. From the length of time it took to complete one interview, it was felt that the 100 interviews initially intended could not be completed. Hence, some revisions of the research strategy were necessary. One of the four tank areas (research site) was eliminated and, instead five homesteads in each of the three remaining study sites were added, for 90 interviews. The questionnaire was also shortened by removing some quantitative questions, such as how many *sisa* cattle had died or sold. Instead, the question enquired if any had died or been sold--in order to devote more time to collecting qualitative data on cattle ownership, which had been found to be the most lacking area in the literature. This version was pre-tested again among a group of cattle owners in a region from which the final sample of homesteads would not be drawn.

3.5 Efforts to ensure data validity

The use of mandatory herd-size limits to suppress the natives during the colonial era left a legacy of fear of government authority among herders in SNL.

Hence, asking about herd ownership is always viewed with suspicion and apprehension. Deliberate mis-reporting of cattle numbers was circumvented by using the veterinary assistants' record books--which lists all homesteads that keep cattle and the number they keep. This does not, however, prevent cattle owners' hostility and suspicion towards anyone asking them questions about their cattle. Several measures were taken to safeguard the validity of the data collected for this study. First, the interview schedule was designed to be self-verifying. For example, the question on how many cattle a homestead had sold in the last 12 months was followed by another asking the respondent to list how many were male and how many were female, etc. If these figures did not add up, an immediate clarification was sought.

Secondly, through the MOAC's stake in the results of the study, the study team was granted limited access to the various facilities, including personnel and documents of the Department of Veterinary Services (DVS). The most valuable of these were the records[24] and record books kept by local veterinary assistants, responsible for the dipping of all cattle within a given radius (25 Km.) of SNL. It was from these record books that the sample of rural homesteads was taken. The veterinary assistants responsible for sampled tank areas were also responsible for making announcements on dip days that some of them would be approached by researchers on this issue in the near future. The information officer responsible for putting together a radio program also announced the pending study on the air.

The third measure, and probably the most effective in assuring co-operation from selected homesteads was that, together with the Regional Administrator, we approached the chief-in-council of the area to present the research proposal and discuss it with him. The research objectives were outlined making sure to highlight the benefits SNL cattle owners stood to gain from the use of the data in the development planning process. His assistance in securing the co-operation of his subjects was sought. The independent status of the researchers and the research process from the government as well as the rights of their people to refuse an interview were stressed. It was made clear to them that this research process was a rare opportunity for cattle owners to contribute into the current reformulation of the policies that affect the country's livestock industry. This way they could let the effects of various government policies known by voicing their ideas in the current debates. The response to these meetings was guarded but positive. The chiefs were interested in the issues raised in the questionnaire, and made several suggestions in response to some of the questions.

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24 every herd is registered and the cattle are treated for tick-borne diseases every week in summer and bi-weekly in winter, by swimming through a pool full of a chemical/ water mixture. Every herder has his own dip number. As well, they are compelled to report all additions to and withdrawals from their cattle herd to the veterinary assistant. These include all births, loans, slaughters, sales, losses from deaths, theft or otherwise.

The chief would then call all his subjects to a meeting where the researchers were introduced and the research topic and issues raised therein presented. He would impress upon them that this was their opportunity to set the record straight for "the people in Mbabane" (the capital city and government headquarters). Community members were asked to answer the questions put to them as truthfully as possible. This process took a lot of time but without it, this study could not have been carried out successfully, within the timeframe, nor would it have yielded much useful data.

On several occasions, re-visits had to be arranged in order to complete an interview. Sometimes a session was interrupted if the respondent was not the head of the homestead and, therefore did not know, or was not able or willing to reveal some details, particularly the ownership of individual cattle in the kraal. When this occurred, they would ask for a second visit after they had consulted or for someone else to be interviewed.

3.6 Collection of Data

With valid documents in hand--signed by the Principal Secretary, authorising the use of a government vehicle after hours and during the weekends, interviewing began. In the field, some problems arose. The first had to do with the apparent incongruity of the gender of the interviewers and the subject under investigation. Here were two females interviewing mostly male homestead members about their ownership or not of cattle, a subject that is culturally outside the domain of women. Cattle ownership is a very sensitive issue, since the cattle they own represent, among other things their bank accounts, their worth, or the absence of such. They were being asked to reveal their net worth, both psychologically--in terms of self-esteem and respect in their community--and financially. Cattle ownership is a very intimate subject to cattle owners and they felt being questioned about it by strangers to be very unjustified. One man equated being asked to reveal the number of cattle that actually belonged to him in a kraal registered in his name to asking him to expose himself, since that kind of information is usually kept within the family. He was assured that no one other than the researchers would know. It turned out that of the thirty-three cattle registered under his name, only three belonged to him; the rest were held under the *sisa* arrangement, and actually belonged to at least three different individuals.

During the diagnostic survey, a few cattle owners were engaged in conversation to gauge the sensitivity of this kind of information. This was meant to assist in the phrasing and sequencing of the questions, thus making the interview less stressful. Still, respondents were very cautious and, sometimes suspicious--across age, residence, and educational level--to being questioned about the cattle, they own. Other issues that evoked the most emotions included long-standing cultural practices whereby, in the name of the king, the chief can remove or slaughter a subject's cattle, without compensation. The owner, in such an

instance had to be content with the honour the choice of their cattle bestowed on them. This issue was raised often concerning government's current attempts to force cattle owners to bear the costs of cattle dipping.

Customs such as cattle loans (*sisa)* between friends and relatives, the use of cattle as the medium of choice in such, still venerated cultural transactions, as bride wealth were also raised by respondents. They questioned the future of such profound social practices, which are an intrinsic part of Swazi culture, once the indigenous cattle husbandry system became completely monetised as that seemed to be the path that government was steering it towards. Current debates about the removal of government subsidies on veterinary services and medications, with a concomitant introduction of dipping fees charged per head of cattle, which would be used to purchase chemicals for the treatment of tick borne diseases. These issues were very current at the time of the interviews, as they were being debated in the newspapers and in Parliament at the time, and added to the suspicion about the intentions and impartiality of the research study.

Further, the research assistant had never conducted a social science research interview before. While intrigued by the experience, she was quite daunted by the attitude of some of the interviewees, some of whom would turn around and interview the researchers before they acceding to being interviewed. Some days the chief researcher had to accompany and introduce her to each homestead, and explain the purpose of the research, attempting mainly to dissociate the study from current parliamentary debates as well as policies of the Ministry of Agriculture. This proved tricky since the research team was driving a car from that Ministry. Those contacted were also assured of the anonymous nature of the research process, as well as their right to refuse an interview.

Learning of the difficulties encountered in completing the target interviews in the time available, the head of the Planning department seconded two enumerators to the study team to speed up the interviewing process. These needed to be trained before they joining the rest of the team in the field. Thus, the rural homestead (part one) of the interviews, as well as interviews of cattle owners selling cattle at rural sale yards were completed. Meanwhile, the chief researcher proceeded to the urban centres to locate town-dwelling cattle owners identified during the rural homestead interviews. That is, those who worked and lived in urban centres, but owned cattle that grazed on SNL rangelands. Interviews with a sample of these were included in the original proposed methodology.

This group proved to be very elusive and very difficult to locate. Rural homesteads are firmly planted on the ground, and easy to locate using a satellite map. In contrast, place of employment and place of residence, employer, and occupation proved very difficult to use as beacons for locating a person in the urban areas. Also, where people in the rural area tell you a person works or what he does, proved not always to be accurate. People changed jobs and locations without necessarily telling those with whom they had *sisa'*d their livestock,

especially in cases where the *sisa* arrangement does not stipulate a visitation schedule. With such an arrangement, there is no urgent need to keep the custodian of one's cattle informed of one's movements.

Some urban cattle owners were located, but not enough data was collected to form any detailed impression or reach any conclusions about them that could be used to construct a typology of urban dwelling cattle owners. Nor was it possible to get a complete handle on the subjective meanings they, as a category, attach to cattle ownership. This class of cattle owners deserves a whole study, with adequate resources (in terms of time, money, and more) devoted to it to be successful.

The data used in this study are, thus, limited to that gathered from interviews of residents of rural homesteads. The major focus of the study is interaction among cattle, rural people, and their environment[25]

3.7 Other Sources of Data

Documentary research involving the selection of facts from documents also formed a part of the research methodology used to collect data for this thesis. Given constraints of time, the extensive use of secondary sources of relevant information was unavoidable and provided helpful data.

Reviewing accumulated knowledge from documents about an issue is an essential first step in the research process. Many authors agree that people learn from and build on what others have done/discovered. They argue that it is best to find out what is already known about a question before trying to answer it. Thus, any research effort is part of the collective process of gathering knowledge [Gall, et al 1996: 114; Maxwell, 1996:30; Miles & Huberman, 1994: 18]. Neuman (1991) succinctly sums the argument by stating that, "scientific research is not an activity of isolated hermits who ignore others' findings or who hide what they discover. Rather, it is a collective effort of many researchers who share their results with each other, and who pursue knowledge as a community" (p. 68).

The documents consulted comprised, but were not limited to, the numerous government reports--both recent and historical archival materials--as well as herd records kept at the Ministry of Agriculture and dip-tanks, books, published journal and newspaper articles, unpublished dissertations and theses. These documents were a valuable resource, both for identifying what is known, as well as highlighting what may be the missing links in the area. This, in turn, further

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25 Environment here means the social, economic, political, biophysical and cultural context within which this interaction takes place. The majority of Swazi people are agro-pastoralists: a farming system that combines livestock with crop production. The cattle industry consists of two sectors. Eighty per cent of the national herd is communally grazed on Swazi Nation Land (SNL), (531,013 head). The commercial sector accounts for the remainder (95,343 head or 20% of the herd), which represents an alternative cattle production and marketing approach.

facilitated the process of formulating the problem, and the questions for inclusion in the study.

3.7 Coding and Data Entry

After five months (20 weeks) in the field, the completed questionnaires, photocopies of secondary materials, such as archival correspondence, Government files and newspaper articles were loaded into boxes and flown back to Edmonton.

Due to the tight time schedule allowed for out-of-Canada research activities alluded to earlier, as well as the other research activities that needed to be done, data was not entered into computer as it came in from the field. Fortunately, being the principal interviewer afforded the opportunity to check questionnaires for inconsistencies and rectifying them--*in situ*--as soon as they were realised. Consequently, raw data in questionnaires were transported back to Edmonton for coding, entry, and analysis. Even the archival searches involved merely selecting relevant files and photocopying the materials for later thorough reading and reference.

Once in Edmonton, all 90 interviews and the 19 supplementary interviews conducted at action sale yards were re-read, responses coded, a code-sheet constructed, and an SPSS data entry file set up. This was a lengthy process since many of the questions were open-ended, given the exploratory nature of the study. Open-ended questions allow respondents flexibility in to expressing themselves, without being limited by a closed, pre-coded multiple choice questions.

The formulation of an SPSS data entry file, together with the actual data entry took 6 months. This process involved constant checking of the congruence between responses and the codes assigned to them, to ensure that in the process of digitally interpreting the data, the gist/representation of the message/ meaning of responses was not lost. Care was also taken to ensure that responses targeted at a particular hypothesis to be tested were kept together as a bundle, thus ensuring the cohesiveness of ideas.

Once the data was in a usable SPSS format, the research proposal was re-visited. This was done to ensure that there was enough data to test the hypotheses contained in the initial proposal, as well as to decide which hypotheses it would not be possible to test because of lack of data. Data were arranged in clusters, each cluster corresponding or targeting a specific hypothesis. Those hypotheses, for which there was not enough data--such as the ownership of cattle by women--were eliminated from the ensuing analysis.

3.8.1 Data Analysis

With the assistance of a research assistant in the Centre for Research and Measurement in the faculty of Education, the data in the SPSS file was subjected

to further cleaning, its integrity tested. This was a further attempt at ensuring the validity and reliability of statistical techniques and tests to be performed.

The sample could not be subdivided into many groups during the analysis. This was a result of the small number of homesteads in the sample--which was dictated by time and resource constraints. It was also dictated by the even fewer number of homesteads who reported to have sold cattle in the previous 12-month period. Therefore, only basic statistical procedures/ tests and analytical techniques could be used to analyse the data for this study. Too few cases or even empty cells tend to destabilise statistical procedures, such as chi^2 tests, t-tests, or regression analysis.

Only 16 percent (14) of homesteads reported having sold cattle in the previous 12-month period preceding the study. The fact that so few homesteads had sold cattle put several constraints on the kind and depth of analysis that could be done on the data collected for this study. Because the sales were so low, it was difficult to subdivide the data to perform detailed statistical analysis, such as multiple regression.

Acknowledging this limitation meant that only basic measures of association such as chi^2 would yield meaningful and reliable information. Thus, these tests were finally used to analyse the data in this study. Therefore, the analysis is confined to comparisons involving only two variables at a time, and very simple statistical techniques are used. To use elaborate statistical techniques, cell sizes--cases in each cell--would have to be much larger. Writing the thesis began in earnest in June of 1998.

3.10 Personal Reflection

Social science research is, however, a very dynamic process, and is always conducted within one constraint or the other; time was the major constraint in carrying out the fieldwork for this study. All said and done, the triangulation method used in this study instilled confidence in the trustworthiness of the data. That these approaches were taken as a whole process, and not as separate pieces--triangulation--warrants such confidence. Of course, with the requisite resources, certain things could have been done differently, such as using a larger sample.

The issues investigated in this thesis are current ones for the Government of Swaziland. They are also ones for which a rural sociologist was seconded from the Department of Research and Planning to that of Veterinary and Livestock Development, to assist in the quest for their understanding. The fieldwork for this thesis and the experiences gained there from, are very valuable first steps in this direction. Future research into why cattle ownership and the subject of cattle invokes such strong emotions among the Swazi people, will benefit from the experiences gained from doing this study, as well as from the literature reviewed.

Chapter 4: The Swazi Rural Homestead

3.0 Introduction

This chapter, on the rural Swazi homestead, is a description of the characteristics of the 90 homesteads included in the study. As pointed out in Chapter 3, an individual in each of the 90 homesteads was interviewed to collect data about individual members of the homestead and its operations, as well as the livestock it held. Before turning to the data, however, a description of the physical layout of the typical rural Swazi homestead is set out. Such a description contextualises the descriptive information and thus, facilitates an understanding of the various aspects of the homestead as well as their interactions.

4.1 Homestead Composition

4.1.1 The Physical Characteristics of the Swazi Rural Homestead

A rural Swazi homestead is a social, political and economic unit. It fulfils both roles of production and consumption, using scarce resources to satisfy the needs of its members. It has at its disposal human resources--with their capability for managing and technological expertise, natural resources--in land and water as well as physical resources such as livestock, and farming implements. It comprises four main components: the residential site (dwelling structures); the people who belong to it; the arable land (fields) allocated to it, some of which may lie fallow at any one time and; its livestock (cattle, goats, sheep, and chickens). In addition, each homestead has access to land for grazing its livestock, which it shares with other homesteads under the same chief. These components are often, but not necessarily, contiguous to each other. Communal grazing lands may be far-removed from the residential and arable lands. The same applies to members of a homestead, not all of whom are found in the homestead all the time. Some may be living at their places of work, either locally or at the gold mines in South Africa.

Often, a rural homestead is a composite of nuclear families, of relatives who live together and share a common pool of resources such as draught power, labour, land, and housing. On rare occasions, a rural homestead will comprise only a man, his wife, and children, the typical nuclear family, living on its own without contact with kin in nearby homesteads. Homesteads are scattered all over SNL, linked only by winding footpaths.

Most of the people live in huts, clustered together into homesteads. The homestead layout follows a definite plan that reflects the main interests of the occupants and their status relationships. In the centre is the cattle byre, or kraal, whose main opening faces the rising sun, a symbol in family and national ritual. It is the central and culturally most significant structure of a Swazi rural homestead. Each homestead has only one (Mamba, 1996) irrespective of the number of people who own the cattle in that kraal. The cattle byre comprises as many as three pews, the largest of which holds adult cattle. If there are milking cows, there is a separate

enclosure for keeping calves at night. Goats and sheep have a separate enclosure from cattle. At the dip tank, the whole herd is registered under the name of the head of the homestead. Men and boys have free access to the cattle byre, but women may enter only on special occasions.

Grouped round the western side of the cattle byre are the living quarters. The main enclosure with the great hut (*indlunkhulu*), under the charge of the head of homestead's mother is often decorated with the skulls of cattle sacrificed to the ancestors, is used as the family shrine. Distinct from the hut of the mother, are the quarters of the wives. In many rural homesteads, after a period of service to her mother-in-law each wife is given separate living, cooking and store huts which are shut off from the public by a high reed fence.

Within her enclosure, referred to as the hut (*indlu*), she leads a certain private existence with her own children, who are emotionally most closely identified with their own mother. She is allocated her own fields, so that her hut is a semi-independent social and economic unit. Regardless of the number of such units making a homestead, the cattle of all members of a homestead are kept in one kraal.

The relationship between the Swazi and cattle is symbiotic: with cattle and people, sustaining each other's lives [Evans-Pritchard, 1940; MOAC Policy Paper, 1992]. Elam (1984) contends that

> If members of the family are to live, their own increase must be matched with that of their cows. This would be impossible if the cow's milk were to be overdrawn to meet the nutritive needs of the owners' multiplying descendants. The separation from cows of the owner's wives and daughters-in-law who multiply his family and feed its young with milk, is accordingly a barrier to overdrawing and a means of co-ordinating the family's growth with that of livestock (p. 68).

Among Swazi people, such a link between the growth of the human and animal homestead population is harmonised through bride wealth, which is conducted through cattle (Astuti, 1988).

The indigenous huts are of three types, representing the three main Bantu-speaking groups that make up the Swazi nation: the Nguni, Sotho, and Tonga. The style set by the Nguni, the group of the royal Dlamini clan comprises beehive-shaped structures (*gucas'thandaze*) made of young tree branches covered with thatching grass, bound down with ropes. Sotho huts have pointed, detachable roofs placed on walls of mud and wood poles. Tonga buildings, found mainly in the eastern region, have detachable roofs with overhanging eaves, placed on low walls made of stick and mud. The floors are usually made of pounded earth smeared

with moistened cow dung, to make it smooth and clean. It is possible to find all three styles of dwelling structures in one homestead.

Lately there has been a proliferation of brick-walled tin-roofed houses with cement floors, the so-called modern house, in the physical layout of rural homesteads. Because of the cost of materials used for building these structures, not everyone can afford to build a modern house. The ability to build one and actually live in a modern house is, therefore a status symbol- a symbol of wealth and achievement among rural residents. Indeed, when respondents were asked for three indicators of wealth, almost a quarter (24%) cited a brick-walled, tin-roofed house as an indicator of a homestead's wealth. Sithole (1986:72-3) found 70 percent of rural homesteads comprised at least one brick-walled, corrugated iron-roof house, and concluded that the proliferation of these permanent structures was a sign of--among other things--the security of the customary land tenure system.

Fortes (1956) identifies three phases in the developmental cycle of what he calls domestic groups--what is referred to as a homestead in this study--in simple societies. The first phase--the expansion phase--begins with the marriage and birth of a couple's first child. The fission phase, begins with the marriage of the couple's eldest child; and the replacement phase, is when parents die and the heirs inherit the family property, and the cycle starts all over again [Russell, 1986 and 1992; Low, 1982].

Certain rituals are performed to acknowledge the movement in this continuum, especially the rites of passage of the individuals making this domestic group. These rituals in many instances involve the exchange or slaughter of animals, ranging from goats to cattle, depending on how significant the stage reached or passed is. This is illustrated succinctly by Goody (1956) in his description of the Fulani who are similar to the Swazi in their dependence on livestock for sustenance and cultural identity. At some point in a Swazi person's life, the fresh blood of an animal is shed in a ritual to mark a milestone, or to launch them into a new stage of their life.

Swazi people are sedentary agro-pastoralists who grow subsistence food crops as well as commercial cash crops. They also keep livestock, mainly cattle, goats and chickens. Cattle are an integral part of a rural homestead economy, with each animal fulfilling various needs for both economic and non-economic products and services of the different members of a homestead.

The chief of the area of their choice, who also allocates land for the homestead site, allocates heads of rural Swazi homesteads a piece of arable land. The decision of what and how much crops to grow is made by individual homesteads. Such decisions are made within the constraints of available land allocated and family labour to work on the land, as well as the availability of income to offset limitations in any of these resources. Farmers are pushed out of

an allocation if they commit serious crimes[26]. Subjects of a chief on SNL are expected to provide tribute labour, in the form of ploughing, weeding and harvesting the chiefs fields as well as those of the king. Both men and women participate in this kind of work.

Grazing land on SNL is allocated by chiefdom. Chiefdoms are broken up further into wards (*sigodzi*), as the basis for assigning groups of homesteads a grazing area. This piece land is usually close to and within livestock walking distance from the homesteads using it. Homesteads from other wards can not bring their herds to graze on this land. There is no charge for grazing one's livestock on SNL. As well, homesteads are not limited on the number of animals they graze on the range. No fee is levied on cattle owners neither by the chief nor government for grazing their livestock on SNL and no tax is collected by government upon the sale of cattle. Secondly, homesteads are not limited on the number of animals that they can graze on the land. Herein, many experts contend lies the problem of overstocking and land degradation - the infamous Tragedy of the Commons [Hardin, 1968; Charnley, 1994; Brokken, 1993].

4.1.2 Demographic Features

The 90 homesteads selected for this study had 888 people. Homesteads ranged from 2 to 26 people in a homestead, with an average of 9.8 people per homestead. This figure is very near the average homestead size of 10 reported by other studies since the early 1980's [de Vletter, 1981; Sithole, 1986; MOAC, 1996]. As Table 4.1 shows, 94 percent of the homesteads had 15 members or less. Fifty-two percent of these comprised ten people and below.

Table 4.1: Number of People Per Homestead

Homestead Size	Frequency	Col %
1-5	12	13.3
6-10	35	39.8
11-15	38	42.2
16-20	2	2.2
21and above	3	3.3
Total	90	100

The structure of the Swazi homestead, incorporating a diverse group of extended kin, is reflected in the ages of members. Homestead members ranged from less than a year in age to 90 years old, with an average age of 24.5 years (see Table 5.2). Age was broken into four categories. Those of age 6 years and below were labelled pre-schoolers, and made up 12% of the homestead population.

[26] These include practicing witchcraft, murder and any other activities deemed to be a threat to the welfare of the community.

Children start school at age seven or later in the rural areas of Swaziland, and normally stay in school until they are 20. Hence the second category, that of seven to 20 year olds, was labelled students. The distribution of occupations in the data supports this classification.

Thirty-eight percent (n = 336) of homestead members were students. This means that 50 percent of sample homestead members were below 20 years of age and were dependants, supported by those who were economically active. A third age category, spanning 4 decades, includes those homestead members who were most likely to be economically active and so were labelled workers. Forty-five percent of homestead members fell in this age category. Seventy- percent (n = 63) of heads of homestead and 88 percent of wives were in this age category. The fourth and last age category comprised homestead members 61 years and older who were called retirees. These made up 5 percent of homestead members and were almost exclusively (81%) full time residents.

As Table 4.2 shows, 54 percent of homestead members were male and 46 percent were female. This contrasts with the commonly held notion among Swazi people that there are more women, than men. The 1997 population census indicated that, in Swaziland as a whole, women outnumber men, a fact that is often quoted in support of the continued practice of polygyny, where men can legally marry more than one woman. The majority (59%) of people in the homesteads had never been married and had no children. This proportion reflects the large number of individuals in the two youngest age groups. A further 10 percent of homestead members had never been married but had children. Married individuals made up 28 percent of homestead members while 2 percent were widowed. Of the widowed homestead members, 63 percent were women and 37 percent were men. Less than 1 percent were separated or divorced.

Eighty-five (94%) homesteads were headed by a male, while just five (6%) were headed by a female. The proportion of female-headed homesteads in the sample was 3 times lower than the national figure of 19 percent (Central Statistics Office, 1996). Eleven (12%) heads of homesteads were widowed, including six men and five women. Of the 85 male heads, 11 were unmarried: two were single, two were unmarried, but had children, one was separated and six were widowed. The seventy-four (82%) male heads of homesteads that were married reported having 85 wives. As noted above, this indicates the limited practice of polygyny among respondents. Nine male heads of homestead had widowed mothers living in their homesteads (see Table 4.2).

One discrepancy from stated Swazi cultural practice is the presence of eleven unmarried males, sons of living widows, who were heads of the homestead. This is contrary to the norms of Swazi culture that a man does not become head of his father's homestead while his mother is alive.

Table 4.2: Homestead Size by Age, Gender, Marital Status and Relation to Head

	Number of people per homestead													
	1-5		6-10		11-15		16-20		21-25		26+		Total	
Age (years)	Freq	Row %	Freq	Row %	Freq	Row %	Freq	Row %	Freq	Row %	Freq	Row %	Freq	Col %
1-6(Pre-scholars)	2	1.8	37	33.6	55	50	3	2.7	9	8.2	4	3.6	110	12.4
7-20 (students)	8	2.4	107	31.8	176	52.4	19	5.7	18	5.4	8	2.4	336	37.8
21-60 (workers)	33	8.3	113	28.5	210	52.9	11	2.8	18	4.8	12	2.4	397	44.7
61 + (Retirees)	8	17.8	14	31.1	20	44.4	0	-	1	2.2	2	4.4	45	5.1
Total	**51**	**5.7**	**271**	**30.5**	**461**	**51.9**	**33**	**3.7**	**46**	**5.1**	**26**	**2.9**	**888**	**100**
Gender														
Male	31	6.5	134	28	255	53.5	17	3.6	25	5.2	15	3.1	477	53.7
Female	20	4.9	137	33.3	206	50	16	3.9	21	5.1	11	2.7	411	46.4
Marital Status														
Never Married, No Children	20	3.8	168	32.1	265	50.7	24	4.6	30	5.7	16	3.1	523	58.8
Never Married, with children	6	7	11	12.8	55	64	4	4.7	3	3.5	7	8.1	86	9.7
Separated/ divorced	0	-	1	20	3	60	0	-	0	-	1	20	5	0.6
Widowed	3	12.5	8	33.3	10	41.7	0	-	1	4.2	2	8.3	24	2.7
Married	22	8.8	83	33.2	128	51.2	5	2	12	4.8	-	-	250	28.2
Total	**25**	**2.8**	**92**	**10.3**	**141**	**15.8**	**5**	**.5**	**13**	**1.4**	**3**	**.3**	**888**	**100**
Relationship to Head														
None	0	-	5	45	5	45	0	-	1	10	0	-	11	1.2
Head	15	16.6	34	37.7	36	40.0	2	2.2	2	2.2	1	1.1	90	10.1
Wife	10	11.7	32	37.6	38	44.7	3	3.5	2	2.3	0	-	85	9.5
Parent	1	11.1	4	44.4	4	44.4	0	-	0	-	0	-	9	1.0
Sibling	3	12.0	9	36.0	13	52.0	0	-	0	-	0	-	25	2.8
Child	16	3.6	128	28.9	243	54.9	24	2.4	24	5.4	7	1.6	442	49.7
Son/daughter-in-law	1	2.6	10	26.3	23	60.5	0	-	4	10.5	0	-	38	4.2
Grand child	5	2.9	45	26.0	92	53.2	3	1.7	13	7.5	15	8.7	173	19.4
Other Relation	0	-	3	42.9	3	42.9	1	14.3	0	-	0	-	7	0.7
Brother/sister -in-law	0	-	1	12.5	4	50	0	-	0	-	3	37.5	888	100
Total	**51**	**5.7**	**271**	**30.5**	**461**	**51.9**	**33**	**3.7**	**46**	**5.1**	**26**	**2.9**	**888**	**100**

It would appear from the data that not all families adhere to this custom and that 11 of the 16 widowed mothers had either given control to or had control of the homestead usurped by their sons. Widows are normally cautious about handing over control of the homestead to their sons. My family experience is illustrative: my mother refused to hand over control to my brother when he mentioned that if he ever gained control he would immediately chase the girls off the homestead.

Still, several factors favour having a male head. Culturally, only men and women past menopause can approach and attend meetings at the chief's kraal. Though old women may attend meetings, they are not allowed to stand and talk in the presence of men. Consequently, when a chief calls on homesteads to meet or hear cases at his kraal, homesteads without a male head are disadvantaged. They are unable to participate in important discussions and significant decisions that affect their wellbeing. Another explanation for the presence of homestead heads whose mothers are still alive is that the homesteads in question may be splinter

homesteads started by the son rather than the original homestead belonging to their fathers. The mother, upon the death of her husband, may have joined her son. A son is denied headship while his mother is alive only if he remains in his father's homestead.

The Swazi homestead does not conform to the Western concept of a nuclear family, which includes a husband and wife and their children. Rather, a homestead embraces various branches of the family tree including relatives who do not live there, as well as resident non-relatives. Heads (10%), their wives (10%), and their children (50%) make up 70 percent of the homesteads' membership while daughters-in-law add 4 percent and grand children add 19 percent to the membership. Since a bride leaves her family to take up residence in the home of her husband, it is common to find daughters-in-law and sisters-in-law included in the homestead unit. Married sons and married younger brothers, as well as their wives and children typically reside on the family homestead for a few years after marriage, while they accumulate the necessary resources to form an independent homestead. These include a herd of cattle. Siblings (3%), parents (1%) and various sisters-in-law, nieces, nephews, aunts and uncles (2%) made up the remaining complement of relatives in the homesteads studied. In addition to these various relations, unrelated individuals, such as herd boys and child minders, comprised 1 percent of the homestead members.

4.1.3 Education, Residence and Employment

The number of years a homestead member had spent attending an educational institution is used as the indicator of education in this study. The pre-test showed that few children attend kindergarten in the rural areas, hence, educational attendance occurs from grade one upwards and includes only those individuals aged 7 years and beyond, in this study.

Of those homestead members over 20 years old, 19 percent had never attended school (see Table 4.3). This number included 36 percent of homestead heads, 29 percent of their wives, and 66 percent of their parents. In this age group, 32 percent had 1 to 7 years of schooling, 44 percent had 8 to 12 years, and 5 percent had tertiary schooling. Among those of school going age (6 to 20 years), 65 percent had completed between one and 7 years of schooling, while 31 percent had completed between eight and 12 years of schooling. Only one individual in this group was attending a post-secondary program.

As might be expected, the level of educational attainment was related directly and significantly to age. Those currently in school had completed the highest levels of formal education. This is direct evidence of the availability and accessibility of schooling in Swaziland. The data also indicate that more adult females than males had schooling, which is an uncommon pattern in developing countries where access to education is often more limited for women than that of

males. In this regard, access to education between the genders in Swaziland is more like that of the developed societies.

Table 4.3: Education by Age, Gender, and Residence

	Highest Level of Education									
	None		1-7		8-12		Tertiary		Total	
Age in Years	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Col %
0-6	109	99.1	1	.9	0	--	0	--	110	12.4
7-20	12	3.5	220	65.4	103	30.6	1	.29	336	37.8
21-60	58	14.6	131	32.9	189	47.6	19	4.8	397	44.7
61-and older	26	57.7	12	26.6	6	13.3	1	2.2	45	5.1
Total	**205**	**23.0**	**364**	**41.1**	**298**	**33.5**	**21**	**2.3**	**888**	**100**
Gender										
Male	108	22.4	190	40.0	168	35.2	11	2.3	477	53.7
Female	97	23.6	174	42.3	130	31.6	10	2.4	411	46.3
Total	**205**	**23.0**	**364**	**41.1**	**298**	**33.5**	**21**	**2.3**	**888**	**100**
Homestead Resident										
Full time	172	32.2	221	41.3	140	26.2	1	.2	534	61.1
Part time	19	5.6	142	42.2	155	46.1	20	6.0	336	37.8
Not a Resident	13	68.4	2	10.5	3	15.8	0	--	19	2.1
Total	205	23.0	365	41.1	298	33.6	21	2.3	888	100

In this study, the residence status of each member of a homestead refers to the number of nights per week a person spent in the homestead. Three forms of residence were evident among homestead members. There were those homestead members who lived in the homestead all the time, those who spent only part of their time in the homestead, as well as non-resident members or the visitors. Sixty percent of total homestead membership was full-time residents. Sixty-four percent of females compared to 57 percent of males were full time residents. Eighty-nine percent of wives of the head and 88 percent of children and grandchildren not yet in school and 71 percent of daughters-in-law, were the most likely to be full-time residents. Sixty-three percent of homestead heads were full time residents as well.

The nature of individuals' contributions to the homestead depends on their residence status. Full-time residents contribute directly to homestead welfare and are directly dependent on the homesteads' resources. Those who were full time residents fell in two groups. There were those who lived on the homestead and spent their days in activities in and around the homestead. This group of full-time residents was comprised of the young and the old, pre-scholars and retirees, and made up 26 percent of the homestead membership. They were the residual homestead population who were exclusively full time residents and who,

therefore, were responsible for carrying out the routine activities that keep the homestead going. They were the pool of family labour that each rural homestead relied upon to perform duties such as herding of livestock, food production, performing other basic agricultural operations, looking after the babies of workers, cooking, fetching water and firewood, etc. In this study, for instance, 35 percent children and grandchildren of the homestead head herded livestock, as did 23 percent of homestead heads and 10 percent of wives. In many ways, these individuals played a supporting role to those who worked off the homestead. In turn, those in off-farm wage employment looked after them, in terms of remitted income, food items, and clothing.

The second group of full-time residents were those who slept at the homestead for the same number of nights but spent their days off the farm engaged in non-homestead related activities. Included in this category were students and commuting workers in off-farm wage employment. Students make over a third (34%) of commuting full-time residents. Their contributions in terms of labour were limited to week ends and school holidays. Commuting workers, on the other hand, constituted 40 percent of full-time residents. The 63 percent of homestead heads who were commuting workers provided the capital used to purchase farm inputs and implements such as tractors, as well as cattle. Their contribution provides the source and impetus for accumulation and renewal of the homesteads' assets while retirees and other full time residents maintain those assets.

Part-time residents who regard the rural homestead as their primary residence constituted 38 percent of homestead members. Included in this group were individuals who returned regularly to their homestead over weekends or month-ends, but worked and had sleeping quarters in urban centres of employment. Many of them had wives and children living full time in the rural homesteads. A third of homestead heads and 50 percent of their sons who had wives and children residing full time in the homestead fell in this category. Overall, this group of residents was the best educated with only 6 percent of part-time residents having no education compared to 32 percent full-time residents and 68 percent of non-residents.

Non-resident members of homesteads constituted the third form of residence. They did not live and had no sleeping quarters in the homestead compound, but were still considered by the respondents to be members of their homestead. They were the sporadic visitors, who visited on a weekend and drove back to their place of abode on the same day. Two percent of homestead members were in this category. Among these members were those who only came to the homestead for special occasions such as funerals, weddings, ancestral spirit appeasing ceremonies, family reunions, etc. Although they may not live there, they too, expected to be buried in the rural homestead plots some day. The data shows that people in this category included married sons and daughters, their wives and children residing in towns.

Table 4.4: Education by Employment, Location and Income

	Highest Level of Education (years)									
	None		1-7		8-12		Tertiary		Total	
Adult Employment (21-60 years)	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Col. %
Self Employed	1	9.0	1	9.0	8	72.7	1	9.0	11	6.0
Skilled	2	2.0	14	14.0	67	67.0	17	17.0	100	11.2
Unskilled	14	21.8	29	45.3	21	32.8	0	-	64	34.9
Unemployed	1	12.5	2	25	5	62.5	0	-	8	.9
Total adults employed	**18**	**9.8**	**46**	**25.1**	**101**	**55.1**	**18**	**9.8**	**183**	**9.3**
Chi2 = 192.6; Sig. = 0.00										
Place of Employment										
Don't Know	1	50	1	50	0	-	0	-	2	0.4
Inside Swaziland	14	32.9	220	51.7	171	40.2	22	4.7	425	87.4
Outside Swaziland	9	15.2	14	23.7	36	61	0	-	59	12.1
Total	**24**	**4.9**	**235**	**48.1**	**207**	**42.4**	**22**	**4.5**	**488**	**99.9**
Remittances										
None	2	1.6	65	54.1	52	43.3	1	.8	120	43.3
Money	1	5	5	25	13	43.3	1	5	20	7.2
Food/clothing/ inputs	0		3	25	8	66.6	1	8.3	12	4.3
Combination – money/ goods	12	9.6	34	27.2	65	52	14	11.2	125	45.1
Total	**15**	**5.4**	**107**	**38.6**	**138**	**49.8**	**17**	**6.1**	**277**	**99.9**
Period of Absence										
Regular	3	1.6	97	54.8	72	40.6	5	2.4	177	36.2
Less than 3 months	11	3.8	134	46.8	126	44	15	5.2	286	58.6
4-6 months	4	21	6	31.6	9	47.4	0	-	19	3.8
7-12 months or more	3	50	2	33.3	1	16.7	0	-	6	1.2
Total	**21**	**4.3**	**239**	**48.9**	**208**	**42.6**	**20**	**4.0**	**488**	**100**

The level of educational attainment had a significant influence on the occupations of those working off the farm. Of those homestead members over 20 years of age, 19 percent held jobs that required specialised training. Included in this category were drivers, teachers, agricultural extension workers, security guards, police officers, nurses, etc. Thirty-five percent were manual labourers, including plantation farm workers, domestic workers and child minders, gardeners, road construction workers, etc. while 6 percent were self-employed. This category includes hawkers and market women who sell fruits, vegetables and processed foods at roadside markets, as well as grocery owners (see Table 4.4).

One percent (8 members) were reported as unemployed, that is; they were looking for an off-farm wage-paying job, but had not found one at the time of the interviews. In the interim, they were part of the pool of on-farm family labour.

This category comprised siblings, children, daughters-in-law, as well as grandchildren. None of the others without an occupation considered themselves unemployed. This means that 21 percent (183) of members of homesteads were in non-farm employment and contributed to varying degrees to the well-being of other members of their homestead through remitted cash, food-clothing or both. The data appears to indicate that there is a large dependency ratio among rural Swazi homesteads.

Only 18 percent (n = 157) of homestead members were reported as remitting any income from off-farm employment to their homesteads; 14 percent (n = 120) were employed off the farm, but did not remit any income. The bulk of homestead members were either not employed away from the homestead and thus, had no income to contribute or were too young to earn an income. Of those members employed off-farm, 7 percent remitted only cash to the homestead and 50 percent contributed food and clothing, as well as cash to homestead income, while 43 percent did not. All heads of homestead as well as 90 percent of their wives contributed money, food, and clothing to their homesteads, when they had off-farm income. These data are important to homestead cattle marketing behaviour, in that a head of homestead or his wife who works off the farm will contribute directly to homestead income--thus affecting the need for the sale of cattle. For other members of a homestead, however, such a contribution may be optional.

It should be noted, however, that the respondents might not know the details of intra-household income flows, if the homestead is made up of multiple production and consumption micro-units. In this case, the head of the homestead might not know for instance, if his grandson gives his daughter-in-law money at the end of each month. Members of households are not obliged to report to other homestead members all the details of life in their household. There is no requirement that a member in waged work has to first show the head of the homestead the cash, food and/ or clothing he brought to his wife and children. Other homestead members may get to know about some of the exchanges, but not all. Hence, depending on who responded to the questions, some of the details of micro-unit activities may have been missed. The ignorance of intra-household income transfers is illustrated by the respondent reports that 67 percent of siblings, 44 percent of children, and 87 percent of grandchildren of the head of homestead contributed nothing to homestead income.

Eighty-seven percent of homestead members in off-farm employment were working within the country; 12 percent worked outside Swaziland; and only in two instances (1%) did the respondent admit to not knowing where a member of their homestead worked (Table 4.3). Sixty-five percent of heads of homestead and 77 percent of their wives worked within the country. The findings are in keeping with those of other researchers. Studies of employment patterns in Southern Africa have noted that Swaziland has the highest domestic employment in the region

[Nkambule, 1983; Sithole, 1986; de Vletter, 1978]. The high number (55%) of part-time, and commuting residents of homesteads, who are in off farm employment, corroborates this finding. Fifty percent of local workers reportedly do not remit any income to the homestead, as opposed to 12 percent of members working in foreign places of employment.

While the income of members in off-farm, wage employment is important for the accumulation, maintenance, and renewal of a homestead's assets, the economic contribution of members on the farm is, at least, just as important. Members of homesteads, who are on the farm all the time, perform the daily chores related to the homesteads' maintenance. They fetch the water from rivers, streams, and the firewood for cooking and heat. They cook, clean the houses, build and mend walls and roofs of dwelling structures and kraal fences whenever necessary, as well as attend community meetings and obligations. They also mind the young children and herd the homesteads' livestock.

4.2 Wealth, Status and Resource Base

4.2.1 Sources of Income

Swazi people are sedentary agro-pastoralists who grow crops on the same piece of land each year, as well as keep livestock. Though off-farm wage employment is one source of wealth, and brick houses, farm implements and tractors are some of the visible indicators of a homestead's wealth, the rural Swazi homestead economy revolves around two other activities that are closely related. These are crop production--including subsistence as well as cash crops--and livestock production--mainly goats, chickens, and cattle. The main subsistence crop produced on SNL is maize, which covers more than three-quarters of the cultivated land (Sithole, 1986). Many use elementary tools, such as hand held hoes and sickles as well as ox-drawn implements, for the cultivation of crops. The most widely held farm implement was the ox-drawn plough, with 70 percent of homesteads having one plough. Ownership of a cultivator--used for inter-row weeding--was second, held by 39 percent of homesteads. Other implements include harrows, held by 22 percent, planter 20 percent and a tractor, owned by 8 percent of the homesteads in the sample.

Three main sources of income for the homesteads in the sample that emerge from the data are shown in Table 4.5. These included remittances from homestead members working off the farm for a wage--for 49 percent of respondents. The sale of crops was second, for 19 percent of homesteads. The third source was on farm businesses--such as sale of handcrafts, beer, chickens, eggs and vegetables, 17 percent.

Table 4.5: Major Sources of Income for Sample Homesteads		
Source of Income	Frequency	Percentage
Remitted income	44	48.8
Sales of farm produce	17	18.8
Non-farm business	15	16.6
Other	14	15.6
Total	**90**	**99.8**

4.2.2 Homesteads' Ownership of Assets Other than Cattle

Information on alternative indicators of wealth is important in order to shed light on any alternative possessions that can substitute for cattle as an indicator of wealth. Ownership of assets other than cattle may also have an effect on cattle income and sales. In order to later examine the relationship between a homestead's ownership of such assets and their effect on cattle sales, respondents were asked to name three possessions, besides cattle, that they use to judge a homestead's wealth. Respondents named six indicators of a Swazi homestead's wealth. These were a motor car; a brick-walled, a brick-walled, tin-roofed house; money in a bank savings account; a private farm; a tractor; and ownership of a private business or having many wives and children or producing enough to feed one's family. In addition, a number (11%) of respondents said that nothing indicates a homestead's wealth besides ownership of cattle.

Table 4.6 shows that ownership of a tractor was cited as the most important indicator of wealth for 37 percent of the respondents. The second most frequently cited indicator of wealth was living in a homestead comprised mostly of brick-walled, tin-roofed "modern" houses, which was cited by 20 percent of respondents. Ownership and operation of a private farm was cited by 11 percent of respondents as one wealth indicator. Another 11 percent of respondents believed that nothing other than cattle ownership indicates a homestead's wealth.

Ten homesteads were the owners of 14 tractors in this sample. They were probably commercial farmers, producing cash crops as well as having income from ploughing for other herders. They reported receiving a significant source of income from renting their tractor to their neighbours. Tractor ownership is a viable source of income in rural Swaziland and this may account for the non-cattle selling homesteads' higher socio-economic standing and hence, their consequent failure to sell cattle.

Table 4.6: Indicators of Homestead Wealth		
Wealth Indicator	Frequency	Column %
Nothing except cattle	10	11.1
Tractor ownership	33	36.7
A modern house on homestead	18	20.0
Owning a private farm	10	11.1
Money in the bank	8	8.9
Owning a motor car	6	6.7
Other	5	5.5
Total	90	100.0

4.3 The Livestock: Cattle and Goat Ownership

Livestock graze in unfenced open grasslands in the rainy season, supplemented by crop residues in winter. In addition to asking about homestead members' ownership of cattle kept in a homestead, respondents were also asked about their homestead members' ownership of other livestock, especially goats. Goats are an important alternative source of income and food, without the psychological and ceremonial value that cattle have for the Swazi people. Goats, like cattle are also kept in one common kraal, irrespective of the number of goat owners in the homestead. They are kept in kraals close to the houses overnight, and taken out to graze every morning. For socio-cultural, economic as well as utilitarian purposes, cattle are the most significant livestock kept.

Not all homesteads in the study kept goats. In fact, goats were found in just 37 of the 90 homesteads (41%)- see Table 4.7. The size of the herd of goats ranged from 2 to 26 goats per homestead. Only 39 (4%) of the 888 homestead members owned goats with ownership concentrated in the hands of homestead heads. Thirty-two of the ninety heads owned goats (36% of heads) and they made up 82 percent of the goat owners. Generally, goats play a secondary and supplementary role to cattle. Homesteads accumulate a herd of cattle first before venturing into goat keeping. Grown children in the mature homestead may keep goats, which they sell or trade, as a first step towards building a herd of cattle, though none did so in this study.

Not every Swazi owns cattle, either. As well, not all homesteads keep any or all of these animals. A baseline survey for a small holder development project (MOAC, 1996) found that only 62 percent of rural homesteads hold cattle, with herd sizes ranging from 1 to 78 cattle. This study was limited to homesteads that keep cattle. Respondents were asked whether each member of their homestead owned any of the cattle in the homestead kraal. This was a 'yes' or 'no' question

against the name of each member. Table 4.6 shows that only 11 percent of homestead members owned any cattle in the homestead kraals.

Table 4.7: Ownership of Goats and Cattle by Relationship to Head

		Cattle Owner		Goat Owner	
Relationship to Head	Number	Freq.	Row %	Freq.	Row %
Not Related	11	0	--	0	--
Head	90	83	92.2	32	35.5
Wife	85	4	4.7	1	1.1
Parent	9	2	22.2	1	11.1
Sibling	25	0	0	1	4.0
Child	432	10	2.3	4	0.9
Son/daughter-in-law	38	0	--	0	--
Grandchild	173	0	--	0	--
Other Relation	7	1	14.2	0	--
Brother/Sister-in-law	8	0	--	0	--
Total	**888**	**100**	11.2	**39**	4.3

Cattle ownership was highest among homestead heads, 92 percent of whom owned cattle. In no other category of family members did the percentage that owned cattle exceed 25 percent. Of all cattle in kraals, heads of homesteads owned 77 percent.

4.3.1 Herd-size and Composition

There were 985 cattle kept by the sample of 90 homesteads, for an average of 10.94 cattle per homestead. Herd size ranged from 2 to 33 cattle (see Table 4.8).

Table 4.8: Number of Cattle per homestead

Herd Size	Freq.	%
5 and under	17	18.8
6-10	34	37.7
11-15	17	18.8
16-20	14	15.5
21-25	5	5.5
26 and over	3	3.3
Total	**90**	**100**

The average herd size is below the 14 cattle that experts have calculated that each rural homestead needs for milk, manure, draught power, as well as social

obligations. It also explains why respondents reported that there is a shortage of cattle in the land for conducting transactions such as bride wealth and gifts to the king or chief. They protested that they could barely manage with the cattle they have to meet their own subsistence needs. Thirty-three percent of respondents said they were looking for cattle to buy, to increase their herd.

Table 4.9 shows that on average, 56 percent of the cattle in a herd were female and 44 percent were male. They ranged in age from less than one year old (calves) to 14 years old, with an average age of 3.94 years--well beyond the 24 months at which technical experts' urge cattle owners to sell-off their cattle. Seventeen percent of the herd was 2 years old while 16 percent were calves. This means that 33 percent of the herd was fit to graze on the range, according to technical experts who urge herders to cull their cattle at 2 years of age.

Table 4.9: Age by Sex of Cattle in Sample Herd

	Age (Years)									
	2 years and younger		3-6		7-10		11-14		Total	
Sex	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Col %
Male	148	10.9	208	48.5	61	14.2	11	2.5	428	43.4
Female	170	30.5	310	55.6	75	13.4	2	0.3	557	56.5
Total	318	32.2	518	52.5	136	13.8	13	1.3	985	99.9

There were more old oxen than cows. The oldest ox was 14 and the oldest cow was 12 years old. The modal age was 2 years old, however. This rather young herd can be explained by the fact that 5 years before the survey, in the 1991-1992 season, and for three years after that, the country lost almost half its herd of cattle to drought. Many (65%) of the cattle in the herd were offspring of cattle that had survived the drought.

4.3.2 The Meaning of Cattle Ownership among Swazi People

The head of a homestead with a large herd holds high esteem in his community, especially if he occasionally kills an animal and invites his neighbours to a feast, to celebrate one or the other occasion. These include funeral/burial occasions where cultural imperatives dictate that relatives of the dead person kill a head of cattle to feed mourners. This is not just a myth based on nostalgia for a bygone era. In this study, respondents were asked if their homestead had killed any cattle in the past 12 months. Seventeen homesteads (24%) had killed 22 cattle, ranging from one to 5 per homestead. June and December, were the months when the highest number was killed. Fifty-four percent of these were killed during a

death related occasion, a funeral or cleansing ceremony, 14 percent were ancestral offerings, and 27 percent were killed to eat during wedding celebrations.

Only one cow was killed in anticipation of its death from birthing complications. This is the one case where the meat was sold. This fact is important because customarily, none of the meat of livestock killed during funerals and ancestral offerings or weddings is sold. According to the findings in this study, this custom is still upheld.

Asked why they keep cattle, 33 percent of respondents said that to a Swazi person, cattle were the equivalent of a savings account at a bank- see Table 4.10. Withdrawals are made (in terms of cattle sales) from time to time, whenever cash is needed. Twenty-seven percent indicated that cattle were a symbol of Swazi identity (*liSwati ulibona ngenkhomo* or roughly, you can identify a Swazi person by always keeping cattle). Eleven per cent of respondents indicated that cattle fulfil every need in a Swazi person's life by providing for a wife, children, energy, food, clothing, as well as manure.

Table 4.10: The Meanings of Cattle Ownership to Swazi People

Cattle as body grime to Swazi people, means:	Freq.	Column %
Cattle are equivalent to a Bank	30	33.3
Life Insurance	11	12.2
Identity/ part of History	24	26.6
Confer dignity on homestead/ worth on owner	15	16.6
Panacea for all circumstances of a Swazi person's life	10	11.1
Total	90	100

Meanwhile, 17 percent contended that cattle confer dignity on the man and his homestead: a homestead without a kraal has no dignity and the man without cattle commands no respect from his peers. Writing about cattle herders of Eastern and Southern Africa in 1926, Herskovitz noted that "it is of no consequence how much cultivated land or other goods a man possesses, for should they not have adequate resources in cattle, they can have no place among those men of substance in the community" (p. 223). From such high regard by one's peers come appointments to positions of power, initially within one's community e.g., as the chief's councillor, and ultimately, at national level--to parliament or to a Cabinet post. The *Tinkhundla* political system currently obtaining in Swaziland--whereby an aspiring politician is nominated by their rural constituency (*inkhundla*)--makes such rural social networks very important.

4.3.3 Uses of Cattle by the Homesteads in the Sample

Swazi people do not consider cattle a farm product: cattle are not produced for the market, like bags of potatoes or bales of cotton. Cattle are "non-human" members of the homestead (Ingold, 1980). They are assigned names the same way as the human members, and the genealogies as well as the age of each animal is carefully kept and known by their owners. They are held in the same esteem as a family land holding.

Cattle that are two years or younger--32 percent of the total sample herd--did not produce many flow products, except maybe, manure. Neither were they engaged in reproduction. This discussion of uses of cattle, therefore, concerns only cattle older than 2 years, which constituted 68 percent of the total herd. Fifty-eight percent of these adult cattle were female and 42 percent were male. Respondents identified what each head of cattle in the kraal was presently being used for or had been used for in the last 12 months. This was an open-ended question designed to elicit all possible uses of cattle on SNL.

Table 4.11 shows that the most frequent use reported for 56 percent of adult cattle was breeding (*kutala*). Breeding was, of course, also a very significant use of cattle as it is important to the accumulation and expansion of the herd (*kuphemba)*. Most of the cows calved in April, the beginning of autumn in Swaziland. On average, each cow had given birth to two calves, although the number of calves depended on the age of the cow and ranged from one to 5 calves. In addition, cows were a source of milk, with milk production averaging 3 litres a day a cow. Sixteen percent of homesteads reported to have sold milk to their neighbours and 52 percent of homesteads reported to have bought milk in the preceding 12 months. Interestingly, although 387 of the adult cattle were female, only 38 percent of homesteads reported that they milked cows and, just 94 cows or 24 percent of the adult female cattle, were milked.

The explanation for this fact lies in the indigenous livestock husbandry standards, whereby a two-year-old is still regarded as a calf. Cows in this system produce a calf every 2 to 3 years, or longer. This does not seem to bother the rural cattle owners because during that time, they still get milk from the cow. Cattle satisfy a myriad of their owners' needs. Their owners are not really in a hurry to wean a calf, as they believe that, with the prevalence of disease and low quality of grass, the cow's milk is essential to the calf's chances of survival. Just as human babies are breast-fed until they are 4 years old, a calf suckles for 2 years, before being separated from the cow.

When respondents were asked if they had used any of their cattle for draught power in the last 12 months, 58 percent said they had not, while 42 percent had. The high number of homesteads not using draught oxen is due to the relatively young age of steers in the herd. The average age of the herd is this sample is 2 years old. Male cattle designated as oxen do not begin pulling the plough until after they have been weaned from their mother, which happens

around 2 years old (24 months). Training for draught duty takes place in the subsequent winter, for them to be ready for the following ploughing season.

Table 4.11: Uses of Cattle by Sample homesteads

	Age of Cattle (years)									
	2 and younger		3-6		7-10		11-14		Total	
Current Uses	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Col %
Nothing	7	70	0	-	3	30	0	-	10	1.0
Draught	54	17.4	184	59.5	60	19.4	11	3.5	309	31.3
Milk	14	48.2	14	48.2	1	3.4	0	-	29	2.9
Breeding	89	34.9	149	58.4	17	6.6	0	-	255	25.8
Savings	0	-	2	100	0	-	0	-	2	0.2
Breeding +milk	68	25.6	146	55.0	49	18.4	2	0.2	265	26.9
Manure/ milk	84	75.0	22	19.6	6	5.3	0	-	112	11.3
Exchange	2	66.6	1	33.3	0	-	0	-	3	0.3
Total	318	32.2	518	52.5	136	13.8	13	1.3	985	100

Draught power was the second most cited use of cattle--31 percent. Four percent of adult female cattle were used for draught power as well. The provision of manure that 11 percent of respondents derived from their cattle came third. One percent of the herd had not been used at the time of the interviews. This percentage corresponds with the proportion of calves in the herd.

Cattle ownership, that is, to whom the cattle actually belong does not affect present use of cattle. The responses attested to the practice of putting *sisa*[27] cattle into the homestead pool of resources and using them as part of the common pool. Indeed, that is one of the purposes of lending someone your cattle, to provide flow products such as milk and milk products, draught power, manure to them.

A very small number of cattle (2) were reportedly being kept as savings. This may reflect the fact that the population interviewed were rural homestead residents, who use cattle mainly to meet subsistence needs. Although savings are part of subsistence needs, rural cattle owners do not look at their cattle in this light. When cattle reproduce, their owners do not look at calves as a return to investment or as a rate of return. When they sell an animal to pay school fees, they do not consider this action as equivalent to a withdrawal from a savings account. This state of mind exists in spite of their awareness of the fact that their cattle are a store of wealth (*ingcebo*) and that often members of their community use the size of their herd to judge their wealth.

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27 Found all over southern Africa, kusisa is a practice whereby cattle are loaned by one individual to another. It is often taken to be either an arrangement of convenience, or a reflection of the tradition that riches should be shared with the less fortunate (Sibisi, 1979; Mtetwa, 1982; Tapson, 1991). It is called mahisa in Lesotho and mafisa in Botswana.

Ninety-five percent of respondents reported that homestead members had eaten meat of the dead cattle- see Table 4.12. Although 70 percent of the cattle had died from disease, their owners and family members still ate the meat. In 12 percent of the cases, dead meat was fed to dogs and 4 percent of the meat was thrown away. Other respondents did not know what had become of the products from fallen cattle. I was informed that in these cases, the meat was not eaten or sold because the dead cattle were calves or cattle that had been already rotten by the time they were discovered and not fit for human consumption.

Table 4.12: Uses of Products from Fallen and Slaughtered Cattle on SNL

	Slaughtered Cattle				Dead Cattle			
	Meat		Skin		Meat		Skin	
Product Uses	Freq.	Row %	Freq.	Row %	Freq.	Row %	Freq.	Row %
Consumed by Family and neighbours	21	95	0	-	77	80	0	-
Sold to neighbours	1	5	2	9	11	11	10	10
Thrown/ Given Away	1	5	1	5	1	1	21	22
Eaten by Dogs	1	5	1	5	8	8	16	16
Kept for Clothing	0	-	17	77		0	37	38
Kept for other uses	0	-	1	5	0	-	20	21
Total	**22**	**100**	**22**	**100**	**97**	**100**	**97**	**100**

Eating meat of fallen cattle is quite common in rural Swaziland. Although a loss to the homestead in terms of wealth, the family takes the death of an animal as an (unwelcome) opportunity to feast for a few days. Some of the meat may be sold to one's neighbours and relatives. This is in spite of veterinary doctors' advice to the contrary, especially if the cattle were treated with antibiotics. Still, once an animal dies, the family and neighbourhood feast. A few people may complain of a hurting stomach and the runs, but they blame it on having eaten too much meat, rather than any medications they might have taken with it.

Skins from slaughtered and dead cattle were used for making ropes and pieces of clothing in 77 percent of the cases, while almost 4% were thrown away and another 4 percent were sold. Swazi people use cattle skins for making various articles that are useful to their daily lives. These include ropes used in spanning oxen, holding a coffin while it is being lowered into the grave or as mats for drying corn and, for making whips.

Cattle skins are also used for making articles of traditional clothing, such as men' loin skins as well as women's skirts. This is the traditional Swazi dress which every man 'who is a man' (with its connotation that only a man who owns cattle is a real man) in the community, should be able to provide his wife or wives. Women married to poor men (those who do not own cattle that can be killed to

provide a skin) can be identified by not having this skirt to wear, especially to national celebrations. Skins with the best colours are reserved for making shields, which men carry. If the head of homestead has already satisfied his clan's needs for skin products/articles, he may sell skins to a neighbour who uses it to produce a variety of articles. This is another example of how cattle ownership determines one's stature in Swazi society.

4.4 Actual Cattle Ownership

One of the misconceptions by livestock development experts and the programs they implement is that all the cattle found in a homestead belong to the head of the homestead. Cattle kept in a homestead's kraal tend to be confused with cattle owned by its head. The head of a homestead can acquire cattle as outright possessions in several ways: through inheritance or as bride wealth for daughters, through purchase as well as by natural increase. In addition he may keep cattle which, ostensibly he owns but, in fact, holds on behalf of others who are part of the homestead. The homestead herd may also include, for example, cattle that belong to married women, in consequence of various cultural practices. Other members of the homestead, including those working off the farm, may buy cattle in their own right and keep them in the homestead kraal. It is possible to find that some of the cattle belonging to a homestead are held elsewhere, while an almost equal number held in the homestead have been *sisa*'d in by another owner, or owners. This study found close to 8 percent of homestead heads who owned none of the cattle in their kraal: all were *sisa*-in, by a maximum of three different owners in one kraal.

To learn more about cattle ownership in this study, given the sensitivity of data on ownership, respondents were asked a number of different questions about the ownership of the cattle in their kraals. During the demographic census of members of each homestead, respondents indicated whether each member owned any cattle in the homestead kraal. These data are reported in Table 4.6 and show that only 11 percent (n = 100) of homestead members owned some of the cattle in the kraal.

In the census of all cattle in the homesteads' kraal, respondents were also asked who owned the cattle that is, to whom each head of cattle belonged. Although all cattle were registered in the name of the head of the homestead, some of the cattle in the kraal belonged to other people. Table 4.13 shows that in response to the question 'who is the owner of this head of cattle' the head was again indicated as the owner of 82 percent of the cattle while 18 percent belonged to other people.

Table 4.13: Reported Ownership of Cattle		
Cattle Ownership	Freq.	%
Owned by head	809	82.1
Not owned by head	176	17.9
Total	985	100

As a strategy for validating this information, a third question required respondents to indicate how the owner of each head of cattle in the kraal was related to the head of the homestead. This question was asked even of cattle that had been identified as the property of the head of homestead. A different picture emerged from this question. Seventy-seven percent (755), rather than 82 percent (809) of cattle were identified as belonging to the head of the homestead (see Table 4.14). Apparently some cattle had been identified as the head of homestead's property when, in fact, a myriad of people including parents, siblings, wives and others owned the remaining 23 percent of the herd.

Table 4.14: Cattle Ownership By Cattle owners' Relationship to Head

	Cattle Ownership					
	Owned by Head		Owned by Other		Total	
Relationship to Head	Freq.	%	Freq.	Col %	Freq.	Col %
None	0	-	3	1.3	3	0.3
Head	755	76.6	0	-	**755**	**76.6**
Wife	30	13.0	30	13.0	30	3.0
Parent	17	7.3	17	7.3	17	1.7
Sibling	0	-	45	19.5	45	4.5
Child	5	0.5	22	12.6	27	2.7
Friend	0	-	10	4.3	10	1.0
Other Relation	1	0.1	49	21.7	50	4.9
Brother/Sister-in-law	1	0.1	45	20.0	46	4.6
Total	**809**	**82.1**	230	23.3	985	100

The cross-tabulation of cattle ownership with the cattle owner's relationship to the head of homestead, illuminates the complexity of cattle ownership on Swazi Nation Land. In some homesteads, cattle owned by the wife and children of the head of the homestead are considered *sisa*'d in, while in other homesteads, such cattle are considered his own cattle. Cattle belonging to parents of the head are considered to be his own property even while the parents live, in cases where he has been designated the head and, apparently in anticipation of inheritance.

What seems to emerge is that cattle owned by siblings, other relatives such as nephews, brothers-in-law, non-relatives such as friends, neighbours, etc. are clearly considered *sisa*'d in. Hence, the corroboration between Table 4.14 which shows that 12 percent of cattle had been *sisa* in. Table 4.13, shows that the proportion of the herd owned by other relatives as well as non-relatives was 11 percent (see Table 4.6). One can thus, conclude that, despite the obvious complexity of cattle ownership in the rural setting, cattle owned by distant relatives and non-relatives are not considered the property of the head of homestead. Yet, depending on the homestead dynamics, the rest may, or may not be, regarded as his own.

The question on the relationship of the cattle owner to the head of homestead caused some unease among respondents. This discomfort at revealing true cattle owners is an attestation of what Nkambule (1983) refers to as the self-aggrandisement and prestige role of cattle, which an owner (or keeper) enjoys from the size of his herd. He reports them as his own, yet further probing reveals a different picture altogether. This question served to highlight the complicated nature of the issue of *bona fide* cattle ownership.

Respondents were asked to indicate how each head of cattle came to be in their kraal (see Table 4.15). Inherited cattle comprise just 6 percent of the herd, while 3 percent were bride wealth. This figure is low considering that bride-wealth has been a central feature of Swazi culture, but accords with the respondents' views that there were not enough cattle anymore to conduct the transaction through cattle. Hence the prevalence of conducting bride wealth, using cash in-lieu of cattle or not at all. The majority of cattle are offspring of older cattle already held by the homestead. Sixty-five percent of the herd fell in this category. The prevalence of young (2 year old) animals in the herd corroborates this. The second most common (13%) method of cattle acquisition was purchase. These figures indicated that most cattle owners were self-made men. As already indicated, an additional 11 percent of the cattle were on loan (*sisa*'d) to the homestead by other people.

Less than 1 percent of the cattle were of unknown source to the respondent, while another four were acquired through an exchange with neighbours. The practice of exchanging cattle between homesteads, in small numbers and for short periods is quite common. One homestead may negotiate to exchange a young female for a young male, if short of an ox to make a span of six, for instance. Alternatively, if a homestead suddenly finds itself in need for a large amount of cash, yet its herd comprises relatively young cattle that are not likely to fetch a good price, it may exchange one of its young for a neighbour's older, heavier animal. As well, he may need to slaughter an animal for an emergency, such as a funeral, but only have young or female cattle. A neighbour may offer to exchange or trade him an older or male head of cattle to use for the purpose, while he keeps the young or female animal.

Table 4.15: Sources of Each Head of Cattle in the Homestead

	Total	
Source of Cattle	Freq.	Col %
Unknown	5	.5
Inheritance	55	5.5
Purchase	132	13.4
Natural increase	627	63.6
Bride Wealth	28	2.8
Gifts	18	1.8
Kept Under *Sisa*	116	11.7
Exchange	4	.4
Total	985	100

Almost 2 percent of the cattle were gifts to members of homesteads, through several cultural mediums of ensuring equitable distribution of productive resources among members of a homestead. These include a heifer that a husband gives to his new wife, signifying permission for her to eat milk products from the homestead herd (*liphakelo*). One woman reported that her husband had given her a heifer as a reward for herding the homestead cattle, while another received it from her mother as a reward for nursing her while she lay sick.

Twenty-two percent (20) of the sample homesteads held 230 cattle under *sisa* in their kraals. That is equivalent to 23 percentage of the total herd. Close to 8 percent of heads of homestead owned neither goats nor cattle. All the cattle in their kraals have been *sisa'd* in. Seventy-five percent of owners of *sisa*-in cattle were related to the head of the homestead keeping their cattle, with 70 percent being his siblings and other relatives. The rest belonged to friends and non-relatives.

In one kraal there were 25 cattle held under the *sisa* arrangement. This was highest number of cattle held under *sisa* in a single kraal. The majority (61%) of homesteads holding *sisa* cattle held five cattle or less. In most of the cases, people initially *sisa*-in one animal which, over time, multiplied. The longest period a homestead had kept cattle under the *sisa* arrangement was 21 years. The least was two years.

Seventy-five percent of owners of *sisa*-in cattle lived in another rural area in Swaziland; 20 percent lived in a local town and 5 percent lived out of the country (see Table 4.16). Sixty-one percent (61%) of the owners of these cattle visited the homesteads keeping their cattle whenever they wished to see their cattle. However, in 28 percent of cases, the owner had not visited since the cattle arrived. In all cases, any progeny from *sisa* cattle belonged to the owner. According to Kuper (1947), when the owner finally collects their cattle from the

custodian, they give him a heifer as a token of appreciation. This study learned of no incidents of this gesture.

There was a wide range of reasons for accepting cattle under the *sisa* arrangement. Forty-five percent of the respondent reported that the owner had no land to graze their cattle. In 25 percent of the cases, the keeper had asked the owner to lend them cattle. Fifteen percent 15 percent said the owner had bought the cattle from the keeper and had not yet collected them at the time of the interviews. Two widows had inherited cattle from their late husbands and were hiding them from greedy in-laws.

Table 4.16: Cattle Owners' Residence and Homestead's Reasons for Accepting Sisa Cattle

Owners' Residence	Frequency	%
Town (Swaziland)	4	20.0
Rural area (Swaziland)	15	75.0
Outside Swaziland	1	5.0
Reason For *sisa* in		
Owner Had No Land	9	45.0
Owner Bought cattle from me	1	5.0
Access to range	2	10.0
I asked them to	5	25.0
Owner Hiding them	1	5.0
Change of area	2	10.0
Why Accepted		
Few/No cattle	1	5.0
Good range land	2	10.0
Access to flow products	9	45.0
Good relations	8	40.0
Total	20	100.0

Five percent of the respondents reported that they owned cattle kept by other homesteads. Cattle were generally (40%) given to relatives and siblings of the head of homestead. Fewer cattle were *sisa*'d out than *sisa*-in in this sample of homesteads. The highest number of cattle *sisa*-out is 25, in contrast to the 21 reported as *sisa*'d-in. These figures are testimony to the fact that it is the younger heads of homesteads that had cattle *sisa*'d out, as evidenced by their lower herd size and their non-marketing stance. They were still consolidating their herd and would bring all these cattle to one place--their homestead--in time.

Reasons for entering the *sisa* arrangement ranged from the owner having bought cattle from the homestead keeping them and not having collected them at the time of the interviews, to the owner having too many cattle in his own homestead, to having been asked by the cattle holders, as well as problems finding a reliable herder (see Table 4.17). Forty percent of respondents who had *sisa'd* out

some of their cattle cited the quality of the range in the recipient area as the reason for sending their cattle there.

Table 4.17: Cattle Kept by Other Homesteads By Relationship to Head and Reasons for Sending Out Cattle

	Number of Homesteads
Relationship with homestead Keeping Cattle	
None	1
Sibling	2
Friend	1
Other Relation	1
Reasons for Sending Cattle out	
Bought cattle from homestead	1
For flow products	2
Had too many	1
Herding problems	1
Total	5

Table 4.18 shows that forty-six percent of respondents indicated that the duties of the homestead keeping *sisa* cattle include looking after cattle and reporting to the owner, as soon as possible the sick, dead and lost cattle. This is feasible since these arrangements are usually between relatives living not very far from each other's homesteads. In the case of owners living in towns, keepers know where they are. The owners of cattle held under *sisa* on the other hand have the duty of supplying veterinary medicines promptly, as well as visiting regularly to discuss the management of cattle. This reduces suspicion and prevents cheating and other problems.

Eighty percent of respondents also indicated that homesteads keeping cattle under the *sisa* arrangement could only span oxen, milk cows, and use manure from cattle in their care. They cannot kill; sell without owners' directive; use for bride wealth; or give any away as gifts; nor can they pledge *sisa* cattle as collateral for bank loans. Sometimes an owner can ask the keeper of his cattle to look for a buyer for one or more of his cattle. Under these circumstances, the keeper is then in a position to sell *sisa* cattle. The keeper may also kill an animal in anticipation of death if, say, it is injured or sick, and sell the meat in order to salvage some value/return from the animal. The explicit approval of the owner is necessary for the keeper to engage in any of these actions.

This is a very important tenet of the *sisa* arrangement. There were cases reported where some recipient homesteads had cheated benefactors by hiding calves, or claiming that certain cattle had died or had been lost, leading to some

disillusionment with this arrangement. The corruption of this tradition led to wars in the past [Bonner, 1983; Kuper, 1963].

Table 4.18: Duties and Privileges of Recipients *Sisa* Cattle

Duties of Lender	Frequency	Col %
Regular visits	31	34.4
Prompt response	6	6.6
Supply veterinary medicines	18	20.0
Visits and veterinary medicines	35	38.8
Duties and Privileges of Recipient		
Herding	20	22.2
Span oxen	3	3.3
Milk cows	3	3.3
Access manure	5	5.5
Use manure and milk	50	55.5
Report sick/dead lost Cattle	9	10.0
Not Allowed		
Kill cattle	33	36.6
Sell cattle	23	25.5
Give away as gifts or bride wealth	10	11.1
Pledge as collateral	11	12.2
Sisa out	8	8.8
Use for fines	5	5.5
Total	90	100

Eighty-four percent of respondents involved with *sisa* practice, however, reported having experienced no problems with the arrangement.

4.5 The King as the Owner of the National Herd

There is a very prevalent belief among Swazi people that the cattle they own belong to the king. This is invoked most often when attempts are made to persuade cattle owners to bear the costs of cattle dipping. It has been used quite effectively in the last two decades to frustrate attempts by the Ministry of Agriculture and Co-operatives (MOAC) to shift the burden of the costs of cattle dipping to cattle owners. In the three occasions that the Ministry of Agriculture has tabled a bill in Parliament to legislate dipping fees, it has not succeeded. Each time, cattle owners from all over the country as well as parliamentarians, amongst them the owners of large herds of cattle, have opposed the bill claiming that the cattle they keep actually belong to the king.

In 1994, parliamentarians finally approved a bill, but the king, after almost four years of considering it and consulting with his advisors, refused to sign it. Although the Ministry protests that it has no money to buy the chemicals, with budgets having been cut, parliament has ordered the Minister to continue dipping

SNL cattle free of charge. He was scolded for laxity in his duties[28]. Losses reported in this study support concerns about cattle disease. Indeed, 73 percent of cattle deaths were from disease.

Acknowledging the potency of this claim and its effectiveness in sabotaging the government's efforts to cut costs and move the burden to cattle owners, this study explored the prevalence of the view that the king owns all cattle. Respondents were asked if it is true that cattle belong to the king (see Table 4.19). Sixteen percent of respondents refused to answer this question, because they thought it was treasonous, tantamount to questioning the authority of the king. Seventy-nine percent however, concurred. They said it is true that cattle kept by indigenous Swazi people belong to the king. Fifty-one percent cited the requirement for tribute offerings (*kwetfula*) to the king and the local chief, as their basis for making the claim. In fact, one can not refuse to hand over an animal once instructed to do so. They contended that for national ceremonies, such as *incwala* (the ritual of the tasting of the first fruits) the king, through the local chief, kills anyone's head of cattle, without compensating the owner. The owner is expected to feel honoured at the selection of his cattle for national duties (Kuper, 1963).

Table 4.19: Opinions Towards 'Cattle Belong to the King' Claim

Validity of claim	Freq.	%	Reason for Assertion	Freq.	%
Yes	71	78.8	Absence of compensation For gifts to king	18	20.0
No	14	15.5	For national ceremonies	28	31.1
No Opinion	5	5.5	People and their property belong to king	29	32.2
			No opinion	15	16.7
Total	90	100		90	100

Thirty-two percent submitted that in Swaziland, people as well as their belongings, belong to the king. Some respondents' even ventured to illustrate this by referring to the custom whereby the king marries any girls he likes without compensation in the form of em*alobolo*. Again, the father of a queen should just feel honoured at the selection of his daughter for this national duty. Such liberties extend to every aspect of Swazi life, cattle included. Just 16 percent of respondents stated that not all cattle on Swazi Nation Land were the property of the king.

Even the king is swayed by the force of this ownership claim for him to sabotage his own government's policies and prevent him from signing a bill approved by parliament introducing dipping fees. Judging by his reluctance to sign the bill, the king must either concur with the claim or realise that his power and

[28] The Times of Swaziland, May 26, 1998.

ability to rule the country lies in his unlimited access to, and control over, the people and their property. His advisors may have pointed out to him that by signing the bill he would be signing away a part of his power and its legitimacy, to rule over the country. Addressing a meeting on constitutional development in Swaziland, the Deputy Minister for Foreign Affairs submitted that the Swazi nation, through its submissions to the Peoples' Parliament, dissuaded the king from passing the Dipping Chemicals Bill. He said the nation had submitted that, according to Swazi law and custom no one but the king owns cattle[29].

Archival materials as well as historical accounts of the formation of the Swazi nation and the early years of nationhood building, were consulted in an attempt to unravel the roots of this claim. Discussions with some of the elderly chiefs at the research sites were also undertaken, to learn about the genesis of this powerful and significant piece of Swazi folklore and culture.

In the eighteenth and early nineteenth century, at the height of Swazi statehood and nationhood building, the Swazi kings demanded allegiance from smaller tribes they had defeated and plundered. Assured of their loyalty, the king would establish royal homesteads at the new locations as mobilising centres for men. These royal homesteads also served as military outposts from which to launch attacks on other independent tribes. Such royal villages still exist today, kept alive by the tradition of placing some of the kings' wives under the protection of trusted councillors (*Tindvuna*), together with war regiments.

After the defeat of a new tribe, warriors would bring their plunder which including food, maidens, and cattle back to the king, who then redistributed most of it to the heroes. Young warriors, who were ready for marriage, but had not accumulated the necessary cattle for bride wealth, were also eligible for loans of cattle from the royal herd and accumulated through conquest to facilitate the marriage. This loan was given on the understanding that he would pay these back with the *emalobolo* of his first daughter from the marriage (Bonner, 1983; Matsebula, 1978). Hence, whenever the king visited a local royal homestead, the chief or councillor would ask each homestead to donate an animal for a feast celebrating the king's visit. This would not present a problem, as most residents would have received their first cattle from the royal bounty, and were beholden to the king for their subsequent wealth.

If the king was attracted to a local maiden, he was at liberty to take her as his wife, without paying *emalobolo* for her. Many men had been warriors and had received girls plundered in war as presents from the king. Alternatively, the *emalobolo* for their wives had come from the royal herd, hence, although they might have paid it back, they were still beholden to the king for his assistance. It was an honour for the king to select one's daughter or cattle to fulfil royal and national duties.

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[29] TOS: 17 September 1998 (Appendix 5)..

In other words, historically, all Swazi men received their first herd of cattle from the kings, as gifts for loyal service or as assistance in paying bride wealth for one's wife. These cattle formed the genesis of a man's own wealth, as he could then keep all cattle coming in as bride wealth for subsequent daughters after paying back the loan with the bride wealth of the first daughter. Because of this history, the king could expect his subjects to show their gratitude for his generosity by intermittently offering gifts to him, in the form of goods (*kwetfula*) and tribute labour (*kuhlehla*) [Bonner, 1983: 60-102; Kuper, 1963]. The king also felt free to use his subjects' cattle from time to time, without reimbursing the owners.

Following the imposition of British colonial rule over Swaziland and the subsequent outbreak of east-coast fever, which decimated cattle herds, the British administration introduced cattle dipping in 1910. One of the constraints to universal dipping turned out to be the lack of money to buy the chemicals for native Swazi people, who then failed to send their cattle for dipping. Due to the gravity of the disease problem coupled with the fear of native cattle infecting settler cattle, dipping was made compulsory and offered free of charge. This was, however, an interim measure, meant to operate until such time that the natives could afford to pay for the service, from wages earned in the South African gold mines and local plantations. Later, several attempts at recouping the costs of dipping met with so much resistance that, since 1915 up to this day, they have been continually put on hold (Nguni, 1984)[30]. All attempts to institute dipping fees have failed to break through the claim of native Swazi cattle belonging to the king.

4.6 Summary

This chapter, discussing the main characteristics of the 90 rural homesteads in the sample, looked at the number of people in the homesteads, the age and gender distribution of the members; their level of education as well as occupation status, sources of and access to income, as well as the inter-relationships between these factors, which form a rural homestead resource base. It is clear that there is a high dependency ratio among rural homesteads. Children- those below 20 years old, together with the old form the bulk (almost 60%) of homestead membership. These are supported by the few (n = 277 or 31%) members who work off the farm and remit all or part of their earnings to the homestead. These full-time homestead residents however, albeit not earning an income, form the residual pool of family labour, responsible for, among other things, herding cattle, minding the young, collecting water and firewood as well as attending to the homestead's community obligations. They are, thus, useful and are responsible for the smooth running of the homestead's affairs.

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30 Archival file series *** on Dipping of native cattle and introduction of a cattle tax.

It is evident also from the preceding discussion that homesteads are different in terms of their ownership of certain vital resources, such as livestock--cattle and goats. Although all the homesteads in the sample were, by design keeping cattle, not all cattle in a homestead's kraal belonged to the members of that homestead. In fact, some heads of homesteads owned no cattle at all, following the cultural practice of cattle lending- *kusisa*. Another noteworthy point is that the average number of cattle held by homesteads in the sample is three cattle lower (at 10.94) than the 14 head of cattle experts have recommended as the minimum number of cattle a Swazi rural homestead requires to satisfy its subsistence needs- physical and social obligations- within the cultural context of the SNL rural economy. This fact appears to contradict official wisdom that there are more cattle roaming the countryside than their owners know what to do with, causing environmental degradation, as well as costing the country valuable foreign exchange. It appears to support the views of respondents, who submitted that there were a shortage of cattle and thus, were looking for cattle to buy.

An inquiry into the bona fide ownership of cattle kept in a homestead's kraal, highlighted the complexity of this issue among Swazi people. It was only with in-depth probing, using a minimum of four questions that a clearer picture of cattle ownership seemed to emerge. Even at that level of depth, we may still not know exactly what constitutes 'ownership' of a head of cattle on Swazi Nation Land. This issue turned out to be very sensitive, with respondents often reluctant to go into details of ownership and hoping the interviewer would be content with the 'flippant' response that all cattle in the homestead's kraal belonged to the head of that homestead. Some of these issues will be revisited in the next chapter to test the various hypotheses on the determinants of cattle off-take from SNL. The issue of 'ownership' of cattle is investigated further to find out who sells whose cattle as well as some of the dynamics involved in the decision to sell.

Based on the responses to the in-depth investigation of cattle ownership in this study, true *(bona fide)* ownership of a head of cattle is defined as the power of the individual to dispose of that animal either through sale, slaughter, gifts or bride wealth. Sibisi (1979) and Brokken (1993) describe the long-drawn, consultative process involved in the decision to dispose of a head of cattle in a homestead-even when a head of cattle is said to "belong" to a given person. Respondents described the rights and obligations of custodians, and the actions that would be infringements of those rights. Selling cattle was cited as one of those actions that only an "owner" of an animal could do; custodians can not. Hence, for the purposes of this study true "ownership" of an animal is indicated by the ultimate power a person had in deciding to dispose of an animal.

Chapter 5: Cattle Off-take

5.0 Introduction

As indicated in earlier chapters, Swazi Government policy since independence has consistently encouraged de-stocking SNL range through the sale of cattle. This chapter focuses on the extent of off-take through sales by the homesteads included in this study and on the factors that distinguish those homesteads which sold cattle from those that did not. Various hypotheses derived from the general literature on the behaviour of herders as well as specific determinants of cattle sales among indigenous Swazi cattle owners will be tested. These hypotheses relate to the characteristics of the cattle herds and the homesteads keeping those cattle herds.

The chapter concludes by expanding the definition of cattle off-take by submitting that the concept of cattle off-take[31] as it is currently defined in official circles and by international experts is grossly inadequate in measuring the value of output from the communal range lands and from the cattle kept by indigenous Swazi herders. From the respondents' point of view, off-take includes cattle that are slaughtered by the rural homesteads for social and ceremonial reasons and cattle sold to meet homestead members' cash needs, as well as cattle that die from a myriad of afflictions, mainly disease. Lately, rampant cattle rustling--thefts-- are a frequent occurrence, further eroding the surplus cattle available for sale, which will depress even further the off-take through sale.

5.1 Cattle Sales

Government policy encouraging homesteads to sell cattle has also attempted to persuade cattle owners to sell younger cattle as these yield the better cuts of beef favoured in the export market. In an attempt to assess the extent to which homesteads responded to government policy, respondents were asked whether and how many cattle they had sold in the previous year. Interestingly, as Table 5.1 shows, only 16 percent (n = 14) of the 90 homesteads had sold cattle in the preceding year with 11 percent (n = 10) selling only one head of cattle and 5 percent selling two cattle each.

Table 5.1 shows that 18 cattle were sold by the 14 homesteads with sales. Looking at the number of cattle sold relative to the total number of cattle owned by the homesteads in the study, the off-take rate through sales was .016 percent (18/(985+18+22+97)= 0.016)[32] over the preceding year. This statistic is not

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31 The higher this rate is, the more animals per herd are sold, and hence, the less pressure on the range. High off-take rates also imply that animals are slaughtered at an early age when their conversion rate (forage into meat) is still high. In this respect, off-take rate is a measure of the herds' technical efficiency.

32 The official definition of cattle off-take is the number of cattle sold for commercial slaughter as a proportion of the total herd. From the findings of this study it is proposed that off-take should be calculated as the percent of cattle removed from the

surprising. In fact, it confirms the official concern, both local and international, about low off-take from SNL. It also supports the intent of this study, which is to find out not just whether cattle off-take is low, but why this is the case.

Table 5.1: Number of Cattle Sold by Homesteads Selling Cattle over the Preceding Year

	Homesteads Selling Cattle in Previous Year	
Number of Cattle Sold	Frequency	% of Homesteads
0	76	84.4
1	10	11.1
2	4	5.5
Total	90	100

Of the 76 homesteads that had no sales in the previous year, none had sold any cattle in the preceding 5 years either. Whether one looks at one-year or five-year patterns of cattle sales, it is clear that off-take from SNL range has been very low. These observations regarding cattle sales for the homesteads included in this study appear to support official concern of the Swazi government and international agencies about low off-take from SNL.

On observing--during the pre-test--that many homesteads had not sold cattle, and that only a handful (11%) were earmarked for sale in the next 5-year period, a question on future possible cattle sales and slaughter was included in the interview schedule. All 90 respondents were asked to indicate whether they would sell or kill cattle and what kind of cattle they would sell or kill. While these data indicate that homesteads anticipated selling a larger number of cattle than were actually sold in the previous year, 35 percent of the respondents indicated that they would not sell any animals in the foreseeable future, because they were still building their herd.

Not only were rural homesteads not selling or killing cattle in the 12 month period prior to the interviews, they were also buying cattle in their efforts to build up their herds. Many respondents mentioned the fact that they had just come out of the drought and were, therefore, not in a position to sell or exchange cattle in the near future. The devastating drought which began in 1991 and lasted until 1995 decimated the national herd to 1976 levels (MOAC, 1997), and many people lost many or all of their cattle.

Although only four homesteads reported having bought five head of cattle in the previous year, this low figure was not for lack of the desire to buy cattle. Rather, it was the result of the lack of suitable cattle offered for sale. Most (68%)

herd, over the total herd-size at the period under investigation. This should include cattle sold (18) + living cattle (985) + reported cattle deaths (97) + cattle slaughtered by rural homesteads (22), for 1122 cattle.

of the respondents reported being on the look out for young female cattle to buy for breeding purposes, but said that there were few such cattle on the market. Those few homesteads who had succeeded in buying cattle bought young female cattle, which they intended to use as breeding stock to increase their herds. However, the data on the type of cattle offered for sale indicates that primarily old oxen were available on the market, see Table 5.3 and 5.5.

Homesteads with herd sizes between 9 and 14 cattle were most active in buying cattle. It should be borne in mind, as mentioned in the literature review on Swaziland, that 14 cattle have been defined as the minimum number of cattle a homestead requires to satisfy its subsistence needs. The survey responses suggest that although small herders were building up herds, they were able to do so only through herd retention and natural increase, rather than by external acquisitions.

5.1.1 Herd Characteristics influencing Cattle off-take

5.1.1.1 Herd Size

Given the low level of cattle sales by the homesteads and the respondents' repeated statements that they were not in a position to sell cattle because they were rebuilding their herds following the drought, it is probable that the lower the number of cattle a homestead had, the lower the likelihood that the herd would be culled. Homesteads with fewer animals were probably in the process of accumulating cattle for both subsistence as well as wealth/asset accumulation and, therefore, were not likely to sell any cattle. The use of cattle to produce composite goods in small herds contributes to low sales. Since owners of small herds were targeting to build economically viable herd sizes, they were not motivated to sell cattle in the short run. They could only achieve this goal by withholding their animals from the market.

The following analysis examines the effect of herd size, measured as the number of cattle in a homestead's kraal, on the homestead's cattle marketing behaviour. The null hypothesis is that the number of cattle in a homestead's kraal was immaterial to the homestead's decision to sell cattle. The alternative hypothesis is that there was a positive relationship between herd size and sales, where the higher the number of animals, the higher its propensity to sell cattle.

Table 5.2 shows that no homestead with less than five cattle had sold any cattle in the 12-month period preceding the interviews for this study. In fact, the homestead with the lowest herd-size that sold cattle had seven cattle. In this category of herd size (5-9 cattle), four cattle between four, and 10 years were sold. Homesteads that did not sell cattle had herd sizes ranging from 2 to 26 cattle, with a mean per homestead of 9.95 cattle. Herd sizes among cattle selling homesteads, on the other hand, ranged from five cattle to 33, with a mean herd-size of 16.36 cattle per homestead. Over a third (36%) of those homesteads selling cattle had more than 20 cattle in their kraals.

Table 5.2: Cattle Sales by Herd Size

	Homesteads Not Selling Cattle		Homesteads Selling Cattle		All Homesteads	
Number of Cattle in Kraal	Freq.	Row %	Freq.	Row %	Freq.	Column %
1-4	17	100	0	--	17	18.9
5-9	29	85.3	5	14.7	34	37.9
10-14	15	88.2	2	11.8	17	18.9
15-19	12	85.7	2	14.3	14	15.6
20+	3	37.5	5	62.5	8	8.9
Total	76	100.0	14	100.0	90	100.0

$Chi^2 = 21.9$; Sig. = .001

Fewer than 15 percent of homesteads with a herd of less than 20 cattle, sold cattle in the year preceding the interviews. In comparison, two-thirds of those with 20 or more cattle in their kraals sold cattle. In other words, the homesteads that had sold cattle had larger herds of cattle than homesteads that had not sold cattle. This difference is significant beyond the .05 level, hence the alternative hypothesis is accepted. Herd size was related positively with the homesteads' cattle off-take rate.

5.1.1.2 Age Composition of the Herd

A second aspect of herd structure to be examined in this study is the effect of the age of cattle on cattle sales. It is likely that a homestead would be inclined to dispose of old cattle. As Table 5.3 shows, homesteads included in this study were far more likely to sell animals well beyond the age, when the quality of the meat is considered prime. Only 11percent of animals were sold at the age of two or less and 60 percent were sold after the age of six. The youngest head of cattle sold was 24 months, while the oldest was 13 years old. Younger animals were sold only by homesteads with large herds. Fidzani (1993) explains this phenomenon by stating that in their attempts to balance their homestead needs for subsistence and draught power, herders who consume what he calls the 'composite good', rather than just the end products (sale or beef) will resort to depleting the breeding core of young cattle in their herd. For instance, he reported encountering herders who would rather sell a young, untrained bullock (steer) which would require training for a year before it joins a team of trained oxen, than sell a 6 year-old trained ox.

Table 5.3: Age of Cattle Sold by Study Group, at Auction Yard and in Possible Future Sales

	Sales by Study Group		Sales at Auction Yard		Future Sales	
Age	Freq.	Col. %	Freq.	Col. %	Freq.	Col. %
<=2	2	11.1	0	-	4	6.8
3-6	4	22.2	5	26.3	25	43.1
7-10	8	44.4	12	63.1	26	44.8
11+	4	22.2	2	10.5	3	5.1
Total	18	100	19	100	58	100

In an effort to contextualise and check the information concerning the characteristics of cattle sold data were also collected from 19 SNL farmers at rural auction yards. Like the homesteads included in this study, the farmers interviewed in the auction yards did not sell young animals. All of the animals on sale on these occasions were between five and 12 years old. According to these cattle owners, a head of cattle reaches its age of sale or exchange, such as bride wealth, at seven (7) years old. This information is consistent with MOAC (1996) findings that 6 years is the average age of cattle offered for sale rather than the two year-olds that technicians advise farmers to sell. Most of the cattle for sale were oxen that had been used to pull the plough before other needs arose that were more pressing than keeping the animal for energy needs.

Respondents on the homesteads were also asked about their cattle marketing plans for the next 5 years. As the data in Table 5.4 show, the respondents anticipated selling more cattle younger than six years than was the case for their actual sales in the preceding year or was the case for farmers selling at auction yards. Even so, nearly 50 percent of anticipated future sales were of cattle 7 years of age or older.

Given the reluctance of farmers to sell young cattle, the age structure of a herd will affect what kind of cattle is sold. In cases where a herd contains a small proportion of young animals, it is likely that the homestead would be inclined to dispose of old cattle. Sterile cows and oxen that are too old to pull the plough would be prime candidates for sale. Only in circumstances when a herd is composed of a high proportion of young cattle will the homestead sell such cattle rather than old cattle or oxen.

The null hypothesis is that the age structure of a homestead's cattle herd did not influence the homestead's cattle sales. The alternative hypothesis tested in the study is that the average age structure of the herd did influence a homestead's decision to market cattle. Table 5.4 shows that the relationship between the mean age of a herd of cattle did not significantly affect the homestead's decision to sell.

Table 5.4: Cattle Sales by Mean Age of Cattle in the kraal						
	Homesteads not Selling Cattle		Homesteads Selling Cattle		All Homesteads	
Mean Age of Herd	Freq.	Row %	Freq.	Col. %	Freq.	Col. %
<=2	14	18.4	1	7.1	15	16.7
3-6	25	32.9	3	10.7	28	31.1
7-10	23	30.3	8	57.7	31	34.4
11+	14	18.4	2	14.3	16	17.8
Total	76	84.4	14	15.6	90	100
Chi2 = 3.99; Sig. = 0.26						

Just 7 percent of homesteads whose herds averaged 2 years or less in age, sold any cattle. In the sample of 90 homesteads, 83percent of the cattle offered for sale were older than two years (some were as old as 10 years) with an average age at sale of 6 years. Only 11 percent (n = 2) of the cattle sold were 2 years old and younger--see Table 5.3; and these were sold by a homestead with a large herd--over 20 cattle. The data collected at auction sales shows all the cattle offered for sale were between five and 13 years old. This is nothing near the MOAC's ideal 'sell by' age of 2 years.

Despite age being cited as the major criterion used by cattle owners to decide whether to sell cattle or not, the relationship between the mean age of the herd and cattle sales is not significant at the .05 level. The alternative hypothesis is rejected. Age is a significant factor, however, when homesteads decide **which** head in the herd to sell.

5.1.1.3 Sex of Cattle

The concept of off-take rates does not answer the question: which type of animal contributes most to off-take in Swaziland? Table 5.4 shows the sex of the cattle sold by the homesteads in this study. Eighty-three percent of the cattle sold by homesteads included in this study were male. It appears that the biological ability of female animals to reproduce offspring entices the herder to withhold them from the market. This leads to their much lower off-take rates.

Respondents at auction sale yards were asked what type (i.e. sex) of cattle they had sold. Like homesteads in the study group, farmers at action sales sold primarily male cattle. In this case, 79 percent of cattle sold were male. When asked about future sales, 69 percent of homesteads indicated that they would sell male cattle. Although this figure is more than 10 percent lower that that of actual sales by the study groups and farmers at auction sales, it clearly supports the strong inclination among Swazi cattle owners to retain their female cattle.

Table 5.4: Sex of Cattle Sold by Study Group, at Auction Yard and in Possible Future Sales

	Sales by Study Group		Sales at Auction Yard		Future Sales	
Sex	Freq.	Col. %	Freq.	%	Freq.	%
Male	15	83.3	15	78.9	40	68.9
Female	3	16.6	4	21.1	18	31.1
Total	18	100	19	100	58	100

High off-take rates for grown male animals do not necessarily mean that most of the animals sold from any given herd are males. To assess this, the analysis considered the herd structure in terms of sex of the cattle: the mixture of male and female cattle in a homestead herd. If the herd is dominated by females, the off-take from that herd can still be dominated by females. This analysis, therefore, also looked into the herd structure in terms of the sex of cattle sold and the effect on sales, of the mix of male and female cattle in a homestead herd. The null hypothesis is that the gender mix in a herd did not determine the homestead's propensity to sell cattle. The alternative hypothesis predicts a one way relationship, that is, the higher the percentage of male than female cattle in a herd; the homestead was more likely to have sold cattle--a positive relationship.

Table 5.5: Cattle Sales by the Percentage of Male Cattle in a Herd

	Homesteads not Selling Cattle		Homesteads Selling Cattle		All Homesteads	
Percentage of Male Cattle in the Herd	Freq.	Row %	Freq.	Row %	Freq.	Col %
20% or Less	12	92.3	1	7.6	13	14.4
21-40%	28	93.3	2	6.6	30	33.3
41-60%	27	79.4	7	20.5	34	
61 and over	9	69.2	4	30.7	13	14.4
Total	76	84.4	14	15.6	90	100
$Chi^2 = 57.89$; Sig. = 0.05						

Table 5.5 shows a significant relationship between the ratio of male to female cattle in a homestead's kraal and its off-take, at the .05 level. The dominance of oxen off-take is confirmed by the results in this table. The number of male cattle in a herd does determine the homestead's probability of selling cattle. The alternative hypothesis is therefore, accepted.

If the data in Table 5.5 on the type of cattle offered for sale are representative, primarily older oxen are available on the market. This validates concerns expressed by respondents that they were looking for young female cattle for herd accumulation, yet only old male cattle were available for sale.

5.1.1.4 Actual Cattle Ownership and Cattle Sales

The use of cattle for non-subsistence purposes has been identified in the literature as one of the factors that depresses off-take rates and delays the commercialisation of this sector [MOAC, 1993; 1995; Sibisi, 1979; FAO, 1994; Fidzani, 1993]. One such non-subsistence practice is the kusisa custom, whereby one herder loans out part of his herd to another herder. The recipient benefits from this arrangement by using the cattle for draught power; milk and dung. The benefactor also gains free herding labour and access to grazing he would not otherwise have, as well as a network of people indebted to him and therefore likely to provide support if called upon to do so.

In this study, the actual ownership of each head of cattle in a homestead kraal was investigated in detail--as described in the previous chapter. This was done to ensure that this study does not fall into the common error of assuming that all cattle found in a homestead kraal belong to the homestead or to the head of the homestead. By exploring how many of the cattle in the kraal belong to the head of homestead, the study would get a clearer picture of the bona fide ownership of the cattle in the homestead herd.

The null hypothesis was that ownership of cattle in a homestead's kraal has no bearing on a homestead's decision to sell cattle. Whether a homestead kept cattle it owned, or not, was immaterial to whether or not it sold cattle. The alternative hypothesis was that there is a relationship between the homesteads' ownership of cattle in the kraal and the homestead's cattle sales. If the homestead head owns the cattle kept on the homestead, the likelihood of sale is greater.

The relationship between cattle ownership and homestead cattle sales is significant beyond the .05 level (see Table 5.6). The alternative hypothesis is accepted. Homestead heads sell cattle they own. In all of the homesteads that sold cattle, the head of the homestead owned some of the cattle in the kraal. The 6 percent of homesteads in which the head did not own any of the cattle in their kraals did not sell any cattle.

Table 5.6: Cattle Sales by *bona fide* Ownership of Cattle by the Head of a Homestead

	Homestead did not Sell Cattle		Homestead Sold Cattle		All Homesteads	
Ownership of Cattle by the Head	Freq.	Row %	Freq.	Row %	Freq.	Col. %
Head did not Own Any Cattle	8	100	0	--	8	8.8
Head Owned Cattle	68	83.5	14	16.5	82	91.1
Total	76	84.4	14	15.6	90	100.0

$Chi^2 = 22.25$; Sig. = .00

These results show that it is important to establish bona fide cattle ownership before expecting higher volumes of sales. If homesteads are keeping cattle that belong to other people, they will not respond to incentives to cull the herd under their management. According to the rules of the sisa custom, a cattle holder may only harvest the flow products of milk, manure, draught power but may not sell or slaughter the cattle under his care.

5.1.1.5 Reasons for Cattle Sales

It has been argued in the general literature that the use of cattle to meet specific household needs has kept off-take rates low [Doran, et al, 1979; Fidzani, 1993]. The needs of herders are said to be fixed and stagnant. Rather than stimulating sales, increases in beef prices enable the herder to meet his needs with fewer sales. This results in an inverse relationship between off-take and prices. This study asked homestead respondents what reasons or factors motivated sales. Because cattle owners do not always have one single reason for selling their cattle, caution was exercised in asking this question and emphasis was placed on identifying the most important of all the possible motives. This was an open-ended question, which allowed respondents to give the reasons, in the order they had used in their decision making, without being prompted.

As Table 5.7 indicates, 58 percent of respondents who had sold cattle in the preceding year did so to pay school fees. Twenty-one percent sold to buy farm inputs, 14 percent to pay medical bills and 1 to be rid of old, troublesome cows. Among those who said they might sell animals in the next five years, 45 percent indicated that they would sell cattle to pay school fees. Nineteen percent would sell to pay medical bills, 17 percent to buy maize, and 10 percent to buy farm inputs. Asked to indicate what type of animal they would most likely sell, 64 percent would sell an ox ranging between three and 13 years old.

Table 5.7: Reasons for Selling Cattle Given by Study Group, at Auction Yard and in Possible Future Sales

	Sales by Study Group		Sales at Auction Yard		Future Sales	
Reasons for Sale	Freq.	Row %	Freq.	Row %	Freq.	Row %
Pay School fees	10	55.5	4	21.0	26	44.8
Repair farm implements	1	5.5	0	-	0	
Buy/ Farm inputs	2	11.1	0	-	6	10.3
Pay medical bills	3	16.6	2	10.5	11	18.9
Old/troublesome cattle	1	5.5	4	21.0	0	-
Buy maize/ food	1	5.5	4	21.0	9	15.5
Buy wedding gifts	0	-	1	5.2	1	1.7
Buy breeding stock	0	-	4	21.0	1	1.7
Build/finish house	0	-	0	-	2	3.4
To go look for a job	0	-	0	-	2	3.4
Total	18	100	19	100	58	100

Farmers interviewed at auction sale yards were also queried about why they were selling cattle. Their main reasons for selling cattle were 21 percent to pay school fees, 21 percent to buy maize and other food, and 21 percent to buy young, female cattle for breeding purposes. Although the frequency with which they gave a particular response varied, respondents who sold cattle in the past year, those who might do so in the next 5 years and those selling at the auction yards, indicated that the payment of school fees, the purchase of farm inputs, purchase of maize and payment of medical bills, were the most common reasons for selling cattle.

5.1.2 Characteristics of the Homestead and its Members that Influence Sales

5.1.2.1 Number of Homestead Residents

While the idea of an economically viable herd size is appealing and persuasive, is it not without flaws. First, no reference is made to homestead size. To the extent that different homestead sizes and composition--in terms of age, sex, and occupation--require different amounts of income flows from the herd, the viability of the herd will depend on the size of the homestead.

The demographic characteristics that are most pertinent to the subject of off-take rates are average homestead size, the homestead's educational and occupational attributes--particularly those of the head, as well as remittance patterns. Evidence from the previous chapter--Table 4.1--showed that the average homestead size was 10 people. The age structure of homesteads reflects a high dependency ratio, with half of the homestead population under 20 years of age. In the absence of remittances, it is expected that the high proportion of young people (50 percent of whom are still either in school or too young to attend school) may

compel herders to sell more cattle to meet their homestead members' needs. The literature has shown, however, that cattle also provide sustenance, without being sold for cash. The null hypothesis is that the number of people in a homestead had no influence on the homestead cattle marketing decisions. The alternative hypothesis is that the size of the homestead did influence marketing decisions.

Table 5.8: Number of Homestead Residents by Cattle Sales

	Homestead Not Selling Cattle		Homestead Selling Cattle		All Homesteads	
Homestead Size	Freq.	Col %	Freq.	Row %	Freq.	Col %
1-7 People	273	78.6	74	21.3	347	39.1
8-14 People	387	88.7	49	11.2	436	49.1
15 or more people	105	100	0	-	105	11.8
Total	765	86.1	123	13.8	888	100

Chi2 = 21.3; Sig. = 0.001

The relationship between homestead size and cattle sales is significant beyond the 0.05 level. The number of people making up a homestead influenced the cattle marketing behaviour of homesteads in the study. The null hypothesis is rejected and the alternative hypothesis is accepted.

Many studies on the marketing behaviour of SNL cattle owners have commented on the apparent seasonal nature of cattle sales from SNL. Time series studies have indicated roughly two peaks in the volume of cattle sales. One peak is around January/February. Analysis of this has led to the conclusion that cattle sold at the beginning of the year were to pay school fees [Doran, Low and Kemp, 1979; MOAC, 1980; '91; Sithole, 1986].

The school year begins in January in Swaziland. To ensure admission and reserve a place for one's children, fees have to be paid before schools reopen. Education is not free in Swaziland and school fees are very high, ranging from about Can $1000, and higher, per year for a child from grade 8 to 12. Parents who do not have large amounts of money saved for this expense, but have cattle, sell some cattle to meet this cost or risk losing spaces in schools for their children.

The second observed period of concentrated cattle sales is in late October/November. This window coincides with the onset of rains and the beginning of the growing season, when fertiliser and seed need to be purchased, and tractors have to be hired to plough fields. It is also the beginning of the third and last term of the school year, when final exams are scheduled. Students risk not writing their exams if fees have not been fully paid at this time, as they are sent home. This time period is also a time of critical food shortages for many homesteads, especially those that are not self sufficient producers of maize--the

staple crop--to tide them over to the following harvest. Homesteads that own cattle may sell cattle around this time.

This study does not apply to time series data and therefore, can not comment on trends in cattle sales. The data from this study--as shown in Table 5.4--do show that the majority, 67 percent of the homesteads that reported to have sold cattle in the previous year, cited school fees as the reason they had sold cattle. Eight percent cited purchases of agricultural inputs and tractor repairs and a further 8 percent sold to pay medical bills as well as purchase maize.

5.1.2.2 The Number of School-going Children in a Homestead

The relationship between the presence of school-going children and the cattle-marketing behaviour of homesteads is explored in this study. The null hypothesis was that the presence or absence of scholars in a homestead had no influence on the homesteads' decision to sell cattle. That is, the presence of students in a homestead and therefore, the need to pay school fees did not affect the homestead's cattle off-take.

The alternative hypothesis tested was that there was a relationship between the two phenomena. The more students there were in a homestead, the more likely the homestead was to sell cattle.

Table 5.9: Cattle Sales by the Number of School-going Children in a Homestead

	Homesteads Not Selling Cattle		Homesteads Selling Cattle		All Homesteads	
Number of Students in a homestead	Freq.	Row %	Freq.	Row %	Freq.	Column %
No students	12	85.7	2	14.3	14	15.6
1 or 2 students	16	76.2	5	23.8	21	23.3
3 or 4 students	21	87.5	3	12.5	24	26.7
5 or more students	27	87.1	4	12.9	31	34.4
Total	76	84.4	14	15.6	90	100.0

Chi^2 = 5.67; Sig. = .68

Table 5.9 shows a relationship that is not significant at the .05 level. The alternative hypothesis is not accepted. The presence and number of students in a homestead and thus, the need for school fees does not appear to affect a homestead's decision to sell cattle. Many other factors influence a homestead's off-take rate. These include the need to buy maize/food or illnesses in the family, which necessitate the payment of doctors' fees, or the need to purchase agricultural inputs such as seed and fertiliser.

5.1.2.3 The Gender and Age of the Head of a Homestead

It was intended to investigate the role of gender of the homestead head in influencing a homestead's cattle off-take. The premise is that the incidence/ proportion of cattle-selling homesteads will be higher among female-headed homesteads, which tend to be among the poorest, relative to male headed homesteads. We know from Table 4.1 that all the women that had been designated heads of their homesteads were widows, with very little education, as well as being full time residents. If they had no sons or other relatives remitting income to the homestead, then they had few sources of income, other than cattle, on which to fall back whenever cash is needed. Thus, they would more likely often sell some of the cattle left to them by their late husbands.

Questioned about their independence in the management of the cattle under their care, many of these women reported difficulty disposing of cattle, especially selling, as they always had to consult with other members of the homestead, notably sons. They cited this requirement for consultation as an impediment or constraint to their herd management and their ability to meet their homestead needs, as decisions tend to be delayed or permission to sell refused. However, given the small number (just 5) of women heading homesteads in the sample, this analysis was not carried through, since there would have been problems of stability of the statistical techniques, with too few numbers in the cells.

The age of the head of a homestead is also an important factor for cattle off-take rates. Young heads of homestead, who have just established a separate homestead from their father or brothers', will have fewer cattle than older mature homesteads. They will probably be interested in accumulating a herd not only for their homestead members' subsistence, but also to pay *emalobolo* for their wives[33]. Therefore, they will not be inclined to sell cattle. Rather, they will be on the look out for cattle to buy, using wages earned from off-farm employment. Alternatively, they will hoard the few cattle they have from the market.

Older homestead heads, on the other hand, tend to be heads of mature homesteads, retired from active off-farm employment and, thus, not in receipt of a regular income. They most probably live with the youngest school-going children or have many grandchildren living with them, whose parents may not remit any or enough income for the support of both parents and children. If they have cattle, these heads of homestead are most likely to sell cattle to pay school fees for their children and grandchildren, as well as to shore up dwindling supplies of food, mainly maize.

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33 Emalobolo (bride wealth) is usually paid in installments. It is not a requirement that a man pays all the cattle or cash asked for by his in-laws, at once. It is possible therefore to pay for one's wife over many years. Indeed, sometimes the woman's sons may inherit that debt from their father, and have to pay their mother's bride wealth from the proceeds of their sisters' or daughters' cattle.

The null hypothesis tested is that the age of the head of a homestead had no influence on the homesteads' decision to sell cattle. The alternative hypothesis is that it did: that is, there was a positive relationship between the age of the head of a homestead and that homestead's cattle marketing behaviour.

Table 5.10: The Age of the Head of a Homestead and Cattle Sales

	Homestead not Selling cattle		Homestead selling cattle		All Homesteads	
Age of head (years)	Freq.	Row %	Freq.	Row %	Freq.	Row %
20-60	54	90.0	6	10.0	**60**	66.6
61+	22	73.3	8	26.6	**30**	33.3
Total	**76**	**84.4**	**14**	**15.6**	**90**	100

$Ch^2 = 4.2$; Sig. = .04

Table 5.10 shows a significant age-difference beyond the .05 level between heads of homesteads that sold cattle and those that did not sell cattle. The alternative hypothesis is accepted. The lower sales by those in the 20-60 year age group probably confirms what was evident in Chapter 4, that this group was made up of primarily wage earners engaged in off-farm employment. Hence, the name 'the workers', given to this group. Heads of homesteads in this age category had other sources of income and therefore did not need to sell cattle to meet immediate homestead needs. This issue will be re-visited later in the discussion of the effects of access to off-farm income on cattle sales.

5.1.2.4 Residence of the Head and the Homesteads' Cattle Sales

Several scholars [Goebel, 1997; Sithole, 1986; Nkambule, 1983] have commented on the effect of the presence or absence of the head of the homestead to oversee the day-to-day production and management decision-making processes of his homestead. In the absence of the homestead head, wives/women take over the tasks and the decision-making role in the homestead, yet they do not have the full authority to do this. Hence, some decisions and tasks are deferred until word comes from the head on what action is to be taken. Alternatively, everything is held in abeyance until the head returns home. According to some studies, this has a detrimental effect on the homestead's productive capacity and efficiency and results in the poverty and low productivity of de facto female headed homesteads, (Ahmad and Loufti, 1986; David, 1995).

The resident status of the head of homestead was explored in this study, in order to find out if a relationship exists between whether the head lives there full-time, and a homestead's cattle marketing behaviour (cattle sales). The null hypothesis is that the residence status of the head of homestead has no bearing on

a homestead's marketing behaviour--cattle off-take. The alternative hypothesis is that the residence status of the head of a homestead does determine whether a homestead will sell cattle.

Table 5.11: Cattle Sales by the Residence Status of the Head of Homestead

	Homesteads Not Selling Cattle		Homesteads Selling Cattle		All Homesteads	
Residence Status	Freq.	Row %	Freq.	Row %	Freq.	Col %
Full-time	45	78.9	12	21.1	57	63.3
Part-time	31	93.9	2	6.1	33	36.6
Total	76	84.4	14	15.6	90	100

$Chi^2 = 3.6$; Sig. = .05

The relationship between the residence status of a homestead and that homesteads' cattle sales is positive and significant at the 0.05 level, see Table 5.11. The alternative hypothesis is accepted. Although the residence status of the head of a homestead affects cattle sales, this is evidently the consequence of the fact that those heads, who were part time residents, were employed off the farm.

5.1.2.5 Employment Status of the Head and Cattle Sales

Cattle owners are a diverse group in terms of their economic resources. Those who depend entirely on the herd of cattle for sustenance behave differently from those who have other sources of income, even if herd sizes are the same. McGowan (1980) found that while the off-take rate of homesteads whose head held formal employment was 6 percent, that of homesteads who were not so employed, and thus were dependent on livestock, was between 19 and 25 percent. This is evidence of the significance of the head of a homestead's income in acting as a buffer between cattle sales and cash needs.

This section examines the relationship between a homestead's access to off-farm income and cattle sales. The previous chapter--Table 4.13--showed that more than a third of homestead heads in this sample were in off-farm employment. All these remitted income to their homestead.

The null hypothesis is that a homestead's cattle sales were not influenced by the employment status of its head. The alternative hypothesis tested in this study is that a homestead's cattle marketing behaviour was influenced by the employment status of the head. Homesteads headed by someone who was not employed off the farm were more likely to have sold cattle in the previous 12 months. Table 5.12 shows a significant relationship between cattle sales and employment status is significant beyond the 0.05 level. Hence, the null hypothesis

is rejected and the alternative hypothesis accepted. Indeed, 86 percent of homesteads that sold cattle were headed by an individual who was not employed off the farm.

Table 5.12: Cattle Sales by The Employment Status of the Head of a Homestead

	Homestead Not Selling Cattle		Homestead Selling Cattle		All Homesteads	
Head's Employment Status	Freq.	Row %	Freq.	Row %	Freq.	Col %
Employed Off-farm	28	93.3	2	6.6	30	33.3
Not Employed Off-farm	48	80.0	12	20.0	60	66.6
Total	76	84.4	14	15.6	90	100
Chi2 = 4.4; Sig. 0.03						

Participation in formal employment by the head of a homestead influenced the cattle-marketing behaviour of that homestead. A homestead's access to, or lack of, other sources of income significantly affected its dependence on cattle sales for income. The data show that only 7 percent (2) of homestead heads who were employed off the farm sold cattle, while 20 percent of those not so employed sold cattle. This provides evidence of the influence of off-farm income on cattle sales and the dependence of those not so employed on cattle sales for cash.

5.1.2.6 Homesteads' Access to Remittances

In addition to income from the off-farm employment of the head, homesteads may have access to contributions from the earnings of other homestead members, notably sons and brothers of the head employed off the farm. They had wives and children living in the homestead and remitted income to the homestead. This pattern transcends cattle herd size and homestead size, further evidence of the increasingly monetised nature of the rural homestead economy.

Since the government of Swaziland provides no social assistance to the poor, unemployed and disabled citizens, this leaves only remittances, farm, and non-farm commodity sales as sources of rural incomes. Remittances take two main forms. Those working in the formal sector can send money to the cattle-keeping rural homestead, for building and maintaining cattle herds. In fact, historically and traditionally, rural to urban migration in Swaziland has always been motivated partly, by the need to acquire cash that is used to purchase cattle. Secondly, remittances are used for homestead sustenance, thereby curtailing the need to sell cattle.

The null hypothesis tested in this study is that a homestead's access to remittances from members employed off-farm did not influenced the homestead's decision to sell cattle. The alternative hypothesis is that the availability of income from members engaged in off-farm employment influenced a homestead's cattle marketing decisions, that, in fact access to other sources of income would have an inverse relationship with cattle sales.

Table 5.13: Cattle Sales by the Number of Income Remitters per Homestead

	Homestead Not Selling Cattle		Homestead Selling Cattle		All Homesteads	
Numbers of Income Remitters	Freq.	Row %	Freq.	Row %	Freq.	Col %
None	5	11.8	12	88.2	17	18.9
Up to 3 members	61	96.8	2	3.1	63	70.0
4 members or more	10	100	0	--	10	11.1
Total	76	84.4	14	15.6	90	100
$Chi^2 = 3.7$; Sig. = 0.05						

The data indicate an association between the number of remitters per homestead and cattle sales that is significant, at the 0.05 level--see Table 5.13. The alternative hypothesis is accepted.

In the general literature on cattle keeping in southern Africa, including Swaziland, an assumption is made that if cattle owners were more integrated with the modern economy they would be less inclined to keep so many cattle, if at all. Yet, the data in this study suggest that the more integrated with the wage economy rural homesteads are--through wage employment in urban centres and the income available from remittances, the less inclined cattle owners are to sell cattle. In fact, some of the income earned from the modern/urban sector is used to purchase cattle, leading to accumulations of herds.

Through cultural institutions like *sisa*, salaried urban workers easily accumulate herds of cattle, kept by homesteads in the rural areas as both a hedge against inflation and an investment for security at retirement. In other words, the socio-economic and political context currently prevailing in Swaziland, in terms of high inflation, low retirement incomes, high cost of living in urban areas--which compels many Swazi people to retire back to the rural areas at the end of their productive years--makes cattle the only profitable method of investing one's earnings for retirement. It is also an incentive to urban workers to keep the urban-

rural link strong through regular remittances of income to members who may be still resident there, keeping ones cattle, wives and children in the rural homestead. This way, they also maintain a claim to the land--and the rights inherent therein--which facilitates their return later in their lives.

Through reproduction, weight gain, and real price increases, cattle have a very high rate of return. Money saved in a bank savings account loses value over time, due to a higher rate of inflation than interest rates. Therefore, urban dwellers that have relatives or friends in the rural areas to look after their animals prefer to invest in cattle.

5.1.2.7 Diversity of a Homestead's Income Base and Cattle Sales

The availability of alternative sources of income is relevant to the discussion of the extent to which cattle will be sold in any homestead. The more alternatives a homestead has the lower its off-take rate will be. Respondents were asked to give three sources of income for their homestead in the last 12 months. They were also asked to rank these by volume/substance and reliability to the homestead's income flow/base: one represented most significant, reliable, substantial, and three represented the least significant of the three sources. Four possible sources of income other than cattle sales and remittances were given, including sales of farm produce, sales of other goods such as beer and handicrafts, tractor rentals, small businesses such as maize grinding or a grocery shops. It is expected that those homesteads with greater diversity in on-farm income will be less likely to sell their cattle.

The data presented in Table 5.11 showed that heads of homestead that had sold cattle were significantly older than heads of homestead that did not sell cattle. The latter had a wider, more diversified income net and wealth, assets which cushion them from selling cattle, while the older heads of homestead already have their cattle and are enjoying the income from selling these.

The younger constitute what Sithole (1986) calls the 'emergent farmers'. They are experimenting with a few investment options, which, of course include accumulating a herd of cattle. Indeed, they are also producing crops for sale, establishing non-farm businesses, as well as buying private farms! These are the people that de-stocking policy should target. It is unfortunate that they, in addition to their other ventures, are in the process of accumulating a herd of cattle. Still, they may be more amenable to follow expert advice, by adopting or switching to alternative investments, since they do not have that many cattle to start with. They may not be selling cattle now, but they may be agreeable to commercialising their cattle rearing practices by selling off 2 year-old steers, as they would not need them for draught power (they have the tractors!)

These data confirm the validity of the hypothesis that the more diversified the income base of a homestead; the less likely it is to sell cattle. That is, there is a negative relationship between cattle off-take and the number of income sources.

Table 5.14: Alternative Sources of Income for Sample Homesteads

	Homestead not Selling Cattle		Homestead Selling Cattle		All Homesteads	
Income Generating Activity	Freq.	Row %	Freq.	Row %	Freq.	Col %
None	18	62.0	11	37.9	29	32.2
Other	58	95.0	3	5.0	61	67.7
Total	76	84.4	14	15.6	90	100
Chi2 = 27.79; Sig. = 0.00						

As was seen earlier in the analysis of sources of income and assets owned (the asset base) by a homestead, homesteads that sold cattle in the 12 month period prior to this study own fewer assets besides their cattle. For income, they tend to depend more on remittances from homestead members engaged in off-farm wage employment than do the homesteads that had not sold any cattle in the same period.

It was also expected that homesteads assets in the form of modern houses, tractors, private farms, and businesses would affect cattle sales. The null hypothesis tested was that the socio-economic status of a homestead--as defined by the number of assts the homestead reported to own--had no influence on the homestead's propensity to sell cattle. The alternative hypothesis is that the homesteads' likelihood to sell cattle was influenced by its socio-economic status. The results are presented in Table 5.15.

Table 5.15: Homesteads' Ownership of Assets And Cattle Sales

	Homestead not Selling Cattle		Homestead Selling Cattle		All Homesteads	
Number of Assets	Freq.	Row %	Freq.	Row %	Freq.	Row %
One asset	54	83.0	11	16.9	65	72.2
Two assets	13	86.6	2	13.3	15	16.6
3 or more assets	9	90.0	1	10.0	10	11.1
Total	76	84	14	16	90	100
$Chi^2 = 13.15$; Sig. = .02						

There is a significant difference between the two groups of homesteads. Homesteads that had not sold cattle in the 12-month period before the surveys owned more than one (up to three) alternative wealth indicators. Ownership of more than one asset was uncommon for both those homesteads that sold and those that had not sold cattle. Among those that had not sold cattle, 71 percent owned

one asset, compared to 79 percent of homesteads that had sold cattle. Those homesteads that owned fewer assts were more likely to have sold cattle. The alternative hypothesis is accepted. The more varied a homestead's asset base the less likely it was to have sold cattle. Homesteads with more assets--in other words, wealthy homesteads--were less likely to sell cattle.

While 85 percent of the homesteads in this sample actually had at least one modern dwelling structure, only 10 homesteads owned tractors. Despite the low level of tractor ownership, these are prized possessions because they play a pivotal role in farming operations in enabling ploughing and planting soon after the first rains, which boosts harvests. Cattle may not be well nourished at this time, which may reduce the homestead's ability to plough early. Tractor ownership can also generate a steady flow of cash income through rental to neighbours.

Seventy-seven per cent of respondents in this study reported hiring a tractor to plough their fields in the spring, when oxen are still weak from the long dry winter. This figure is consistent with Sithole's findings, some ten years earlier, that 81 percent of homesteads hire tractors to perform some agricultural operations. The high level of tractor hire occurs despite the considerable expense. It costs E200.00[34] (MOAC, 1998) per hour, to rent a tractor to plough one's fields. Because tractor owners can plough large areas of land and have access to cash through rentals, they can support investments in other farming enterprises.

Tractor owning homesteads tend to be cash crop producers as well as emergent farmers (Sithole, 1986). Ownership of a serviceable tractor is a lucrative investment, as well as being an avenue for the creation of additional wealth. Tractor ownership, and the steady cash revenue this provides its owners, is important to the issue of cattle off-take. It is expected that homesteads that own a serviceable tractor can hire this equipment to neighbours. Therefore, homesteads will not sell cattle to meet immediate cash needs due to the steady flow of income generated by tractor hire.

Given the utility of tractors both for work on the homestead and for revenue generation through hire to other farmers, tractor ownership alone may affect farmers' propensity to sell their cattle. The null hypothesis tested in this study was that tractor ownership would have no influence on a homestead's cattle marketing behaviour. Homesteads with tractors were expected to behave the same way as those without a tractor, as far as cattle sales were concerned. The alternative hypothesis was that, indeed, tractor ownership would influence a homestead's cattle off-take rate. That is, according to the alternative hypothesis, homesteads with a serviceable tractor, and thus a steady source of revenue from hiring out to neighbours, would not sell cattle.

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34 the equivalent of Can $60

Table 5.16: Tractor ownership by cattle off-take

	Homestead not Selling Cattle		Homestead Selling Cattle		Homestead Sold Cattle	
Number of Tractors Owned	Freq.	Row %	Freq.	Row %	Freq.	Col %
None	67	83.7	13	16.3	80	88.8
Owned a Tractor	9	90.0	1	10.0	10	11.2
Total	76	84.4	14	15.6	90	100

Chi^2 = .77; Sig. = .68

Although Table 5.16 shows that tractor-owners were less likely to sell cattle than those who did not own a tractor, the difference is neither large nor significant. The alternative hypothesis is rejected. This implies that ownership of a tractor did not influence homesteads' cattle sales.

5.2 Cattle Off-take through Slaughter and Death

As was mentioned in the introduction to this chapter, the contention of this thesis is that cattle off-take from Swazi Nation Land takes at least three forms. These are cattle sold for homesteads' cash needs; those slaughtered by their rural owners to satisfy various ceremonial obligations and cattle deaths, that is, cattle that die from various causes, mainly diseases.

In this study, nineteen- percent (17) of homesteads reported having killed 22 cattle in the 12-month period preceding the interviews; this ranged from one to 5 animals per homestead. These cattle had been killed for social and cultural ceremonies and consumed by their owners in the rural areas; they would therefore, not appear in official statistics of off-take rates nor in calculations of the Gross National Product. June and December were the most popular months for conducting these ceremonies.

Table 5.17: Off-take Through Slaughter by Reason

	Slaughter		Future Slaughter	
Reason (Number of cattle)	Freq.	Col %	Freq.	Col %
Death in Family	12	54.5	51	69.8
Wedding	6	27.2	9	12.3
Honour Ancestors	3	13.6	7	9.5
Anticipating death of animal	1	4.5	6	8.2
Total	22	100	73	100

Table 5.17 shows that fifty-five percent of the cattle were killed during a death-related occasion in the family--a funeral or cleansing ceremony. Twenty-

seven percent were killed during wedding celebrations, and 4 percent (a cow) was killed in anticipation of death from birthing complications. Beef was sold to the public in this single case. This fact is important because customarily, none of the meat of livestock killed during funerals, honouring ancestors, or wedding celebrations is sold. People who attend eat free. The findings from this study show that this custom is still upheld. The point of killing cattle and feeding people free of charge was raised by respondents later in the interviews, with regard to government passing legislation requiring cattle owners to buy chemicals used for treating cattle for tick-borne diseases.

Asked what circumstances would compel them to kill an animal 27 percent of respondents indicated that they would not kill any cattle in their kraal as they were still accumulating a herd. Seventy percent would kill on a death-related occasion, such as a funeral or a cleansing ceremony, and 12 percent would kill an animal for a wedding feast. Fifty-five percent of those who would kill an animal reported that they would most probably kill an ox, while 45 percent would likely kill a cow ranging from five to 14 years old. Age was the most cited (53%) reason for choice of this animal. These figures are similar to the responses to the hypothetical reasons for selling cattle. This appears to indicate that certain cattle in a homestead's kraal may be earmarked for contingencies. Cattle likely to be killed may be the same ones likely to be sold in an emergency. They were probably the cattle Dahl (1966) refers to as the "fallow" herd, kept by homesteads as insurance for unforeseen circumstances, including natural disasters.

Table 5.18: Off-take Through Death by Cause

Cause of Death	Freq.	Col %
Diseases	68	70.1
Birthing	11	11.3
Lightning	8	8.2
Drowning	5	5.1
Snake Bite	3	3.0
Killed by neighbour	2	2.0
Total	97	100

Dead (fallen) animals are a form of off-take from a homestead herd and are, in fact, viewed as such by cattle owners. Half (45) of the homesteads in the sample reported losing between one and six cattle each, for 97 cattle, in the preceding 12 months. Table 5.18 shows that 70 percent of these cattle died from disease. This figure is equivalent to 10 percent of the sample herd.

The highest number of cattle deaths (29 percent) occurred in July which the peak of the dry, cold season in Swaziland. This is therefore a time when there is very little grass or crop residues for animals to feed on. It is also a time when

water is scarce and that which is available is usually very dirty, being contaminated with urine, dung, etc., making it very unhealthy for cattle to drink. In summer--September to April--cattle are dipped every week. Under the assumption that ticks thrive in the wet, hot season and not in the cold dry season (May to August) the frequency of chemical dip treatment of cattle is reduced to twice a month.

This argument fails to take into account the weakened condition of cattle in winter due to hunger, as grasses become dry, less available and less palatable. Also, because the water cattle drink in winter becomes dirty, cattle are more vulnerable to catching diseases, and are disabled from fighting these diseases, once infected; resulting in high cattle mortality in winter. It is not clear which is the worse killer: hunger or disease from contaminated water coupled with a reduced dipping (chemical treatment) schedule in the winter months (Joubert, 1954). The high cattle mortality rate may be a further reason for the failure of rural cattle owners to sell cattle generally, if cattle owners include possible losses of cattle from death in cattle herd management strategies.

Fifty-three percent of respondents cited diseases as the limiting factor to the growth of their herd of cattle. This is noteworthy due to the prevalence of this opinion. The Department of Veterinary Services in the Ministry of Agriculture and Co-operatives focuses on eliminating cattle disease in the country, using up to 30 percent of the ministry's budget for this (Doran, 1994). Yet, disease remains the major problem facing the SNL livestock industry.

Table 5.19: Off-take Through Slaughter or Death by Sex and Age of Cattle

	Type of Off-take			
	Slaughter		Deaths	
Sex	Freq.	Row %	Freq.	Row %
Male	16	73	30	31
Female	6	27	67	69
Age				
2 years or younger	1	2	19	20
3-6	10	48	43	44
7-10	11	50	34	35
11+	0	-	1	1
Total	22	100	97	100

Cattle owners are likely to incorporate expectations of cattle deaths in their decisions on whether or not to sell cattle. If a farmer knows from experience that he is likely to lose 10 percent of his herd in a year to disease, he will factor such information into decisions concerning marketing. In addition, some cattle off-take

can be anticipated well in advance, such as cattle to be killed during weddings as well as for ancestral rituals. Cattle owners plan for these by putting certain cattle aside for these functions.

Table 5.19 shows an intriguing pattern: Male cattle were prime candidates for slaughter, while more cows tended to die. The highest number of deaths--69%--were cows, many of which died giving birth. Deaths among oxen came second with 29 percent, followed by 19 percent of calves, most of which drowned in the dam during dipping. The loss of calf-bearing cows is often a double loss for a homestead, since few calves survive when the mother dies, due to the limited supply of milk to enable other cows to adopt orphaned calves.

5.2.1 Losses of Cattle due to Deaths and Cattle Sales

Given the high levels of deaths, it is likely that this has an impact on cattle sales. A hypothesis tested in this study is that the experience of 50 percent of homesteads in the sample with losing cattle, which died mainly from diseases, affected their decisions to market cattle. This relationship is explored in this study to ascertain what effect cattle losses from deaths had on the homesteads experiencing such losses, in terms of cattle sales. The null hypothesis is that cattle deaths did not affect a homestead's decision to sell cattle. The alternative hypothesis is that the high rate of cattle deaths may have discouraged cattle owners from selling cattle. In other words, homesteads that experienced high cattle deaths are expected to have sold fewer cattle or no cattle at all.

Table 5.20: Cattle Sales by the Number of Cattle Deaths in a Homestead's Kraal

	Homestead not Selling cattle		Homestead Selling cattle		All Homesteads	
Number of dead cattle	Freq.	Row %	Freq.	Row %	Freq.	Col %
None	39	86.6	6	13.3	45	50.0
1-2	28	84.8	5	15.1	33	36.6
3 or more	9	75.0	3	25.0	12	13.3
Total	**76**	**84.4**	**14**	**15.6**	**90**	**100**
$Chi^2 = 15.81$; Sig. = 0.01						

The data show a relationship between losses of cattle due to deaths and a homestead's cattle sales that is positive and significant beyond the 0.05 level, as shown in Table 5.20. The alternative hypothesis is accepted. This is contrary to the predictions of the "precautionary motive" literature, that homesteads experiencing

cattle losses would not have a surplus and would thus not be predisposed to market cattle. The data in this study show that the more cattle homesteads lost through deaths the more cattle they sold.

5.3 Ownership of Goats and a Homestead's Cattle Sales

Herskovitz (1938) referred to goats as "the small change in a livestock-based economy". Since they do not have the same psychological and ceremonial value that cattle hold, goats are more easily disposable assets than cattle. Four of the homesteads that had sold cattle in the previous 12-month period also kept goats.

Thirty-seven (41%) homesteads in the sample kept 359 goats. The number keeping goats is less than half the number of homesteads that kept cattle, signifying, among other things, the secondary role of small stock to cattle in the rural Swazi homestead economy. Two of these homesteads sold six goats, between them, to purchase food and seed. Neither of these homesteads sold any cattle in the same period. There are interesting parallels in the behaviour of homesteads with respect to the off-take of goats and that of cattle. It seems even fewer homesteads (6%) were selling goats than the 16 percent who sold cattle in the same period. Yet, the rate of goat off-take through sale--1.3 percent[35] is very close to that of cattle, at 1.6 percent[36]. There was not a lot of selling of livestock going on SNL, in the period of the study.

Table 5.21: Comparisons of Cattle and Goat Off-take Through Sale and Slaughter

Number of homesteads						Number of animals				
	Kept	Sold		Killed		Total Herd	Sold		Killed	
	Freq.	Freq.	Row %	Freq.	Row %	Freq.	Freq	Row %	Freq.	Row %
Cattle	90	14	15.6	17	18.8	1122[37]	18	1.6	22	2.0
Goats	37	2	5.4	22	59.4	395[38]	6	1.5	30	7.5

Besides the sale of goats, 59 percent (n = 22) of the homesteads that kept

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35 The off-take rate is the number of goats sold as a proportion of the total herd at the beginning of the period, that is, 6+359 = 465. Therefore 6/465*100 = 1.3%

36 Following the same method, the cattle off-take rate is 18 cattle sold as a proportion of the total herd size, which are 18+985 =1003. Therefore 18/1122*100 = 1.6%

37 The total herd of cattle in this study is: 985 cattle that were alive, plus the 97 that had died, plus the 22 that had been slaughtered and the 18 that were reported sold by homesteads in the previous 12 month period, for a total of 1122 cattle.

38 The total herd of goats in the study period is 359 alive + 30 slaughtered + 6 sold = 395 goats.

goats reported having killed 30 goats in the preceding 12 months--8 percent of the herd of goats. Compare this rate of slaughter to the (17) 19 percent of homesteads who killed 22 cattle--2 percent of the cattle herd, as shown in Table 5.23. More than thrice the proportion of homesteads who kept goats killed some of their goats. Sixty-four percent of the homesteads killed goats for a feast, whereas many (55%) of cattle were killed because of a death in the family—see Table 5.22. Goats are the beasts of choice for slaughter for a casual feast, such as at Christmas time. Even homesteads that do not keep any goats--including urbanites--buy one to eat at this time.

Table 5.22: A comparison of the Reasons for killing goats and cattle

	Number of animals Killed			
	Cattle		Goats	
Reason	Freq.	Col %	Freq.	Col %
Death in the family	12	55	7	22
Wedding	6	27	4	14
Honour Ancestors/Feast	3	13	19	64
Anticipating death of animal	1	5	0	-
Total	22	100	30	100

Twenty-three percent of goats were killed when there was a death in the family, compared to 55 percent of cattle. This occurs during the cleansing ceremony held 30 days after the funeral--where a head of cattle has to be killed, those who wore black mourning attire bring these back to the family to be burnt. A small meal for family members in attendance is organised, and a goat usually suffices in this instance.

Forty percent of cattle were killed for a feast--during a wedding or honouring of ancestors, compared to 80 percent of goats. When a homestead has to perform a small ceremony that requires blood letting, such as the animal (*sahhuku*) given to the bride's party to eat for breakfast in the morning, a goat rather than a head of cattle is slaughtered. Since they do not hold the same psychological and ceremonial value, goats are easier to dispose of than cattle.

Twenty-nine percent of the homesteads that sold cattle kept goats as well. The balance, 71 percent, did not--see Table 5.23. This suggests that the goats in the homesteads that sold cattle belonged to other members of the homestead, rather than the head. These members can sell their stock to satisfy their individual needs, without encroaching on the homestead's herd of cattle.

Table 5.23 shows a significant and negative relationship between a homestead's ownership of goats and cattle sales. The alternative hypothesis is accepted. Goats do act as a buffer between cattle sales and cash needs.

Table 5.23: Cattle Sales by a Homestead's Ownership of Goats

	Homesteads not Selling Cattle		Homesteads Sold Cattle		All Homesteads	
Homestead Owns Goats	Freq.	Row %	Freq.	Row %	Freq.	Col %
No	43	81.1	10	18.9	53	58.9
Yes	33	89.2	4	10.8	37	41.1
Total	76	84.4	14	15.6	90	100
$Chi^2 = 11.07$; Sig. = 0.05						

Due to their lower sale price, however, the cash received from selling a goat may not be sufficient when a homestead is faced with a substantial cash need. This may necessitate the sale of a head of cattle or multiple units of goats. Nevertheless, if the amount of money needed at the time is not too substantial, or if goats are the only animals that a person has to sell, then goats will be sold rather than cattle. For instance, in the study, two homesteads had to sell three goats each to meet their specific cash needs, due to the low amount a goat fetches at the market, compared to cattle. The negative relationship suggests that goats act as a buffer or shock absorber between sales and slaughters of cattle. The ownership of goats depresses cattle off-take rates and, thus, may aid the accumulation of cattle on SNL.

5.4 Summary

Several hypotheses regarding cattle sales and the factors that influence a homestead to sell cattle, using Chi^2 and the 0.05 significance level, were tested in this chapter. These hypotheses were divided into two clusters: one related to demographic characteristics of the homestead and its members, especially for the head of the homestead, in recognition of his predominant decision making role in the disposal of a homestead's assets. The second set of hypotheses was concerned with the characteristics of the homestead's herd of cattle.

Most of the hypotheses related to homesteads' cattle marketing behaviour. The number of cattle in a homestead's kraal; the ownership of cattle by the head of the homestead; the sex composition of a herd, especially the percentage of male cattle in a homestead's kraal; the homesteads' ownership of goats as well as the number of cattle lost through death, were all significantly related to cattle sales at or beyond the 0.05 level. The average age of cattle in the herd was, however, not significantly related to cattle sales, despite age being cited often as one of the major characteristics of a head of cattle that determines which animal will be sold or is sold, besides its sex.

Seventeen percent of the total herd was two years old while 16% were calves. This means that 33% of the herd were fit to graze on the range, according to technical experts, who urge herders to cull cattle at 2 years old. The 'reason' given for this cut-off age is that urban buyers--the main target market for SNL

beef--do not have strong teeth to chew tough cuts of meat from the 10 year-old cattle sold by SNL cattle owners. Young cattle also fetch the highest meat grade and thus, the highest dollar per unit of meat sold. This argument, however, does not reflect reality in the eyes of the cattle owner, who owns and sells cattle, not meat. As will be seen later, this misunderstanding is one of the reasons for the low off-take rate from SNL.

Fidzani (1993) observes that "a herder who, due to an emergency, sells a young heifer will receive a lower price than one who sells a mature ox"(p. 217). This is true for the SNL. At auction sales, the auctioneer determines the meat grade of the cattle by visual inspection, before the animal is weighed. There is a difference in price between grades of meat, but this is not enough to persuade a farmer to sell his cattle at a younger age and lighter weight. A 24 month-old steer may be judged as first grade meat, worth $3.00/kg. At 300kg, the young animal weighs much less than a 550kg 14 year-old cow, worth $1.95/kg at second or compound meat grade. Even if the cow is given a lower grade, the difference in weight will make up for the lower meat price it fetches. Ultimately, the 14 year-old cow will bring the owner more money ($1100.00) than the young steer or heifer ($900.00). In addition, the older cow will have served its owner in terms of milk, 4 to 5 calves, several hundred kilograms of manure, etc., over the 14 years of its lifetime.

Farmers are aware of the double jeopardy presented by this situation. They do not comprehend why government experts continue to give them what they perceive to be bad advice, when it is obvious that selling young animals is foolish. Hence, they do not follow such advice. They keep their animals, harvest the flow products, loan some out, kill or sell others when necessary, and life goes on ignoring government advice.

On the human side of determinants of cattle sales, the age of the head of a homestead is positively related to a homestead's cattle sales, and is statistically significant at the .05 level. This is also the case for his residence status and remittances to the homestead were both significantly related to a homestead's cattle marketing behaviour. This is true as well for the diversity of the homestead sources of income, the number of people in a homestead and the homestead's ownership of other assets besides cattle. However, the level of education attained by the head of a homestead; his/her occupation, whether there are school going children or not, and the ownership of a tractor by the homestead were not significantly related to cattle sales.

Heads of homesteads that sold cattle were older and the majority of them were retired, full time residents of their homesteads and so were no longer actively engaged in off-farm wage employment. They also had fewer income sources--the most important of which were remittances from homestead members working off the farm. This rendered them more open, rather than averse, to selling cattle to

meet large, cash disbursements such as school fees, food shortages and doctors bills, than were their younger counterparts.

On the other hand, heads of homesteads that did not sell cattle were young, some were unmarried and thus, in the process of accumulating cattle for bride wealth. They were workers--between 20 and 60 years old and still actively involved in the paid labour force. They were investing not only in cattle, but also in tractors. They had a steady flow of cash income from salaries and wages. Their children were younger, in lower grades had requirements for school fees that could still be met from off-farm wages, thus reducing the necessity to sell cattle--of which they have fewer than cattle selling homesteads. As well, they were renting out equipment to neighbours, which offset the need for selling cattle.

It is a combination of these aspects of cattle owners and cattle-keeping homesteads that determines the marketing behaviour or needs for cash that livestock development policy needs to address. Merely concentrating on livestock alone without concomitant policies addressing the needs of the people who keep these cattle will continue to frustrate policy makers. The combination of these statistics lead to the conclusion that homesteads headed by older (retirees) heads, in spite of having larger herds of cattle, are poorer than homesteads whose heads are younger, and actively engaged in off-farm wage employment. The latter are the emergent farmers (Sithole, 1986). They had a narrower income net from which to draw cash in times of immediate needs. Thus, they had to fall back on their cattle more readily than their younger, fully employed counterparts.

In the discussion on cattle off-take, mention was made of the fact that the cattle that die in a homestead kraal constitute a form of off-take, and thus should be included in calculations of the rate of cattle off-take. Cattle deaths may depress the volume of cattle sold for beef by depleting the numbers of any surplus cattle that would otherwise be available for sale. Indeed, when figures of cattle deaths were added to the sale figures, together with those of slaughtered cattle, the actual off-take rose from 1.63 percent to 12.45 percent.

In addition to the 18 cattle sold (.016% of the sample herd) and the 97 deaths (8.8%), nineteen per cent of homesteads in the sample killed 22 cattle, that is 2.0 percent of the herd. In total, 137 cattle were removed from the range through these three avenues. In the case of the homesteads in this sample, the slaughter rate and, therefore, the off-take rate would be the 18 cattle sold, which is only 1.6 percent. If, on the other hand, cattle off-take were calculated including rural homestead slaughters and cattle deaths, the figure would be much higher--13 percent.

From these calculations, it is evident that the definition of cattle off-take using marketed supplies is insufficient. Cattle off-take need not be measured only in terms of marketable slaughter. In fact, much recent research supports this contention. Fidzani (1993: 39-40), Scoones (1992) and Gundry, et al (1997) contend that the definition of cattle off-take in indigenous rural economies needs

to be expanded. They suggest that, since rural homesteads do not keep cattle solely for beef or sale, "cattle off-take" should include the value of all flow products (such as milk, draught, manure, exchanges for grain) that homesteads harvest from their livestock.

To the indigenous herder who consumes what Fidzani (1993) calls the 'composite good', "off-take" from their herds includes the value of flow products that cattle yield throughout their lifetime, plus sale value or slaughter. These include products such as milk, progeny, draught power, manure, wives and children and then, ultimately, cash or meat and skins. Consequently these products enter his equation of the value of the animals he keeps, over and above the final 'end product/good', which for a commercial rancher is the money earned from selling the animals. This explains the scenario vividly described by Doran, et al (1979) of 'old, skinny, toothless oxen' he witnessed being offered for sale by Swazi herders.

In other words, there is currently a disjunction in the valuation of cattle between livestock development experts and 'farmers' (own quotation marks, since not all cattle owners in Swaziland can be said to be farmers) who acquire and hoard cattle. Livestock development experts, both local and international, measure the productivity of the range or the animals by the amount of money made from their sale. Consequently, they aim for the quickest sale possible. However, 'farmers' look at the value of each animal in their herds as a composite of all the products they harvest from it--including the psychological value of history, sense of identity, dignity and respect, plus the sale value or meat. This is why de-stocking policies (*nciphisani*) have fallen short of their objectives, and will continue to do so, unless livestock experts view indigenous cattle husbandry from the cattle owners' angle. This will lead, hopefully, to policies and programs that will be more sensitive to the lives and needs of cattle owners, with a better chance of acceptance.

Chapter 6: Summary and Conclusions

6.0 Introduction

This thesis attempted to provide answers to two major questions regarding cattle rearing on Swazi Nation Land. The first question was why Swazi people keep cattle. Two answers emerged. The first had to do with the uses to which Swazi people put their cattle. The second reason is related to the cultural meanings that Swazi people attach to cattle ownership.

The second question that this thesis sought to answer had two parts to it. These were: why Swazi people sell the cattle they own, the kind (in terms of age and sex) of cattle they sell and, under what circumstances they **do** sell cattle. The second part of the question was why they do **not** sell their cattle, what types they are likely not to sell and the circumstances under which the decision not to sell is made. The role of homesteads' access to alternative sources of income, including homestead members' participation in off-farm wage employment, is discussed in this issue.

The study endeavoured a critique of the prevailing official wisdom: that there is indeed, overstocking of Swazi Nation rangelands. The discussion incorporates recommendations made by expert rural mechanisation specialists on the minimum economically viable herd size, capable of sustaining the rural lifestyle prevalent on SNL. This refers to the number of cattle each rural homestead needs to fulfil both subsistence (in terms of milk, manure, draught power as well as social and cultural obligations) and cash needs of homesteads members.

The ensuing discussion will summarise the findings of this study as it attempted to answer these questions. This will be followed by conclusions to the study, which flow from the analysis of the findings, and suggestions for areas deserving further inquiry and understanding.

6.1 Why Swazi People Keep Cattle

There were two main reasons why Swazi people keep cattle. The first reason was that cattle provide their owners with valuable services and during their lifetime, before they are disposed of, through either sale or slaughter. Unlike a commercial ranching operation, Swazi people do not raise cattle as a farm product--for meat or cash. These two are products enjoyed by cattle owners at the very end of each animal's long productive life. As mentioned in chapter four and five, not only do cattle provide their owners with valuable services such as draught power, or products like milk, manure, progeny in their lifetime. Instead, Swazi people enjoy beef, use the skins to make other items necessary for a Swazi lifestyle. They sell some animals to meet homestead cash needs. Others are exchanged for wives and the building of social networks, through the institution of

sisa. Should an animal die, Swazi people do not hesitate to use the products of fallen cattle.

Secondly, cattle ownership among the Swazi people is deeply entwined with their historical origins. Cattle are a part of their cultural heritage. Cattle ownership has historical and symbolical meanings that have become an intrinsic cultural trait of the Swazi people. They give Swazi people a sense of identity, of belonging to a national entity--the Swazi nationhood. In the discussion on the genesis of the "cattle belong to the king" culture among the Swazi people, mention was made of the use of cattle as rewards to loyal warriors. The king would give his outstanding soldiers cattle when they needed them to pay *emalobolo*. These cattle were loans that had to be repaid once a warrior's daughters marry. Hence, initially, all cattle held by indigenous Swazi men were, in one way or the other, the property of the king.

The Swazi nation was built through wars and conquests, in which the most prized booty were cattle, young maidens—some of whom were married off to loyal soldiers or taken by the king. Young men were also captured and drafted into the warrior ranks to strengthen the Swazi army. Senior warriors—who later were referred to as chiefs--were given authority over these new lands, livestock, and people (*tinhlonhla)*, to ensure that Swazi law and customs--that tribute labour (*kuhlehla)* and tribute offerings *(kwetfula*)--were introduced and respected. In other words, to assimilate the new tribes into the Swazi nation, on the king's behalf. This honour was only given to outstanding warriors, who had earned the respect of the king and his people. Hence, only respectable men were appointed to such exalted positions. The access and control over cattle became equated to true manhood, as a source of respect, which other men aspired to.

In other words, cattle fulfil many non-economic functions to Swazi's life that are very important to their owners' overall sense of well being. Past development projects failed to consider these non-monetary functions of cattle, which could not be easily assigned a market value, yet are an important variable to a farmer's computation of an animal's present value. They are, therefore, important in swaying a farmer's decision to sell or keep cattle in order to satisfy these non-market functions. Programs informed by modernisation theory failed to factor these issues into their scheme of things, which may explain their lacklustre performance.

6.2 Why Cattle are Sold or Retained

The analysis showed that Swazi people do sell cattle when they need cash to purchase services and products that the subsistence rural economy does not provide. The major products and services for which cattle were sold were education, food/ maize, agricultural inputs, and medical attention. Homesteads also sold cattle if they had a large herd. Homesteads with fewer than five cattle did not sell any cattle. In contrast, two-thirds of homesteads with herds of more than

20 sold cattle in the previous year. Older cattle—with an average age of 6 years--were prime candidates for sale. Mostly, these were former oxen that had been used for power before cash needs prevailed. Homesteads also sold cattle they owned, rather than those being held for other people.

The age, employment, and residence status of the head of the homestead influenced the marketing decisions of rural homesteads. Older heads of homestead, who were not employed off the farm and were full time residents of their homesteads sold cattle, while their younger counterparts, who were employed off the farm, did not.

The flip side of the second question was why homesteads did not sell cattle. The major reason for not selling cattle was the participation in the modern economy—particularly that of the head of the homestead--which provided homesteads with an alternative source of income to meet its cash needs, without resorting to selling cattle. These findings are in direct opposition to the current official reasoning in government circles that, if Swazi people are drawn into the modern economy, they will not need to keep cattle or, at least, not as many. This would then result in herd size reductions and finally to the end of rangeland degradation. The data in this study show that this line of reasoning is flawed. Indeed, those homesteads whose members were engaged in off-farm wage employment and remitted some income to the rural homestead were less likely to sell cattle. In the same vein, homesteads that had alternative sources of income, such as tractor rentals and other non-farm income generating activities, were less likely to sell cattle. These data suggest that many of the rural development efforts of the Swaziland Government, among which are included the promotion of rural income generating activities, may in fact, encourage the accumulation of cattle herds, resulting in land degradation.

The findings also have implications for the current attempts by the Ministry of Agriculture and Co-operatives to shift the costs of livestock rearing to cattle owners on SNL, by legislating that they buy dipping chemicals for themselves. The reasoning behind this drive is that bearing some of the costs of cattle ownership will encourage cattle owners to sell some of their cattle to raise the cash. This, in turn would result in fewer cattle kept and a reduction in the stocking rates, which would reduce the grazing pressure on SNL rangelands. The evidence on the owners' access to alternative sources of cash, however, shows that this policy may only affect the older, rural resident cattle owners, who rely on their cattle for cash. Those with alternative sources would dig into these to raise the necessary cash to purchase dipping chemical, not through the sale of cattle.

In fact, this latter group was active in buying cattle to build herds. Hence, they would buy the cattle sold by other cattle owners who had no other ways of meeting the costs of dipping but by selling their cattle. The net result of this policy would not be a reprieve on SNL rangelands, but increasing economic differentiation among the Swazi population, based on cattle ownership. The data

in this study show that cattle are still the major store of wealth and cattle ownership is still cherished among the Swazi people.

6.2.1 Prevalence of Sisa

No previous study has been done on the prevalence of the sisa practice, which can be compared with the findings of this study. Hence, one cannot judge whether the statistics observed in this study are typical. More research needs to be done on this practice--its prevalence and magnitude as well as the consequences for a policy aimed at the conservation of SNL rangelands. Policy makers need to know if these non-owned (sisa) cattle are managed differently from the rest of the herd, in such matters as their usage, supplementary feeding, grazing and veterinary care. What does this scenario of ownership mean for a de-stocking policy and the general improvement of the management of the SNL herd?

Respondents in this study reported that one of the tenets of the sisa arrangement is that the recipient can not dispose of the cattle they keep under this arrangement--whether as gift, for sale or through slaughter. How prevalent is this sisa arrangement? If government subsidies were removed, what change would it have to undergo--how would it be affected? Would the institution withstand the rigors of a fully commercialised/ market oriented (which incurs costs and has to realise profits, be responsive to supply and demand factors) livestock industry? What would be the nature of the relationship then? What effect would the introduction of costs to cattle ownership have on long standing cultural institutions like sisa, through which families establish supportive networks that encourage good relationships based on the rights and obligations? How would this affect food security, the current land tenure system, and traditional marriage rites which require the slaughter and exchange of live cattle before they are considered legal and binding; and tribute offerings to the chief and/or king?

Swazi people are protective of their culture and cultural institutions. Would the government be willing to obliterate the culture of the Swazi people if these cultural institutions would die under the yoke of modernisation?

It is evident from the data in this study that although the bride-wealth transaction--exchanges of cattle for a bride--still exists, it is no longer very strong. Large herders do more of the paying, and the cattle involved are no more than the number necessary for slaughter during such transactions, which is about three cattle. The same is true for ceremonial slaughter and giving out cattle under sisa.

6.2.2 Cattle Off-take

The official definition of cattle off-take is the number of cattle sold for commercial slaughter as a percentage of the total herd. The contention in this study is that cattle off-take is not just sales. It includes and should include cattle slaughtered by their owners and cattle that die. While homesteads in this study sold just 18 cattle in the year before the interviews, they slaughtered 22 animals

and experienced 76 deaths in their herds. Total off-take through sale, slaughter, and death amounted to nearly 10 percent of the total number of cattle held with sales constituting the smallest portion of that number. In addition to a broadened definition of off-take and examination of the causes of cattle deaths is needed.

The high rate of cattle deaths, particularly in the winter, should be a matter of considerable concern to the Department of Veterinary Services. A whole department, accounting for 25% of the Ministry of Agriculture's recurrent budget, is devoted solely to the prevention and eradication of cattle diseases in the country. It has a well-established network of personnel and services, as well as veterinary doctors through out the country, yet the country still loses many (70%) of its cattle to disease.

More research is necessary in this area, to determine the adoption of alternative cattle feed in winter combined with a regular summer dipping schedule. The net effects of hunger as a cause of death and debilitation on cattle in winter should be measured, as well as the effects of the reduced dipping schedule. The reduction of dipping schedule which is meant to kill ticks-not other water borne diseases which become rampant in the dry season as cattle drink stale water contaminated with dirt.

One elderly respondent suspected that the government, having failed to pry livestock out of their grasp all these years, had now turned to killing their cattle through failure to treat diseases, as a measure of de-stocking the rangelands. In other words, the Department of Veterinary Services should concentrate on its mandate- that of eradicating cattle diseases in the country, before reaching for other issues. On the issue of cattle sales, age of sale, or whether cattle on SNL should be raised principally for sale, scientists and government technicians and cattle owners seem to be talking at each other rather than to each other. This breakdown in communication has led to the current impasse and frustration therefrom.

6.3 Is there overstocking of Swazi Nation range lands?

This thesis comments on the prevailing wisdom that there is overstocking of SNL in general. Most studies concur that a herd of 20 to 40 cattle is the minimum required for economic viability in a pure pastoral economy. A study conducted in Swaziland recommended 14 cattle as the minimum economically viable herd size [Vierich, 1979; Hubbard, 1979; Carl Bro. International, 1982]. The data in this study show that the average herd size among the sample homesteads was 10 cattle, and that over three-quarters (76%) of the homesteads had less than 14 cattle. Fourteen cattle are the minimum number of cattle that a rural homestead on SNL needs to satisfy its subsistence and cash needs. Many respondents reported a shortage of cattle and that they were on the look out for cattle to buy. This is evidence of a disjunction between official wisdom of abundant cattle degrading SNL, and cattle owners reporting a shortage of cattle to

meet their needs. As well, most respondents blamed the continuous drought spells for the denuded SNL rangelands, not their cattle

Although there is no indication of excessive herd sizes in this study, it is still possible that too many small herds will constitute overstocking and lead to excessive demand on available grazing land. In the literature, over-stocking, and carrying capacity, are expressed in livestock unit/ ha. This refers to an imbalance in the ratio of animals grazing on the range to the vegetative cover (i.e. quantity and quality of grass) available to feed that number. When there are more animals than the capacity of the range i.e. available feed, then the range is said to be overstocked. A causal link has been assumed in the range management and livestock development literature, between overstocking and overgrazing though experts disagree on this (Nguni, 1984; Funnel, 1991; Ogwang, 1991). This line of reasoning is responsible for the de-stocking policy--the reduction of numbers of cattle held, which continues to be upheld as the panacea for SNL rangeland conservation.

Yet, there is still disagreement on this point in Swaziland, mainly over the gravity of the problem (Funnel, 1991: 82; FAO, 1994: 4; Ogwang, 1991: 6). The debate between the antagonists and protagonists of indigenous livestock management practices, and the institutions that support them keeps interest in this relationship alive. Some scholars contend that the present system is environmentally sound. They argue that herders are making the most rational choices, given the circumstances under which they live (Galaty, 1992; Brokken, 1993; Swallow, 1987; Bruce, 1992, 1987; Swift, 1977; 1988; Horowitz, 1986).

These efforts have however failed to solve the issue of the causal relationship between overstocking and environmental degradation. The link between overgrazing and carrying capacity does not take into account the effects of the droughts in the region. Neither does it consider the effects of other indigenous range management practices that may be equally destructive to the rangeland. These include the annual burning of grass in the spring, which is done under the assumption that it invigorates grass growth. If the anticipated rainy season turns out to be dry, then burning decreases the capacity of the range to survive the drought. The arguments for a causal link between over stocking and overgrazing ignore the fact that systematically, cattle on SNL are fed crop residues in the dry season. This gives the summer range a four months (May to September) period of rest and recuperation. Under normal circumstances, this should allow the grass to grow (Ogwang, 1991; Nguni, 1984).

The de-stocking policy is based on the concept of rangeland carrying capacity. The carrying capacity of a range is determined by the level of rainfall, soil type, slope, and type of vegetation (Ogwang, 1991). Funnel (1991:86) argues that in Swaziland the range land carrying capacity and the blanket figure it represents, has to be desegregated by ecological zone since the quality of the range that obtains in each zone is different. Despite his suggestions for a simple

methodology of computing the SNL range land carrying capacity, in order to facilitate verifiable assessments of range conditions for each ecological zone), this advice has not been heeded, and no such map exists.

According to Funnell (1991) and Ogwang (1991), a map showing Swazi Nation land's rangeland carrying capacity would determine the areas that are overstocked; those that are under stocked; stable; in immediate danger of overgrazing and those that are already overgrazed. It would also provide evidence that the de-stocking policy- as a blanket national policy- is inappropriate and /or premature. In other words, these scholars contend that the policy was formulated without a thorough investigation of the problem. In fact, an exhaustive analysis of the country's communal range resources may reveal that that not all of SNL is overgrazed and that the situation has not reached the alarming proportions that we have been led to believe. A map showing the various pockets of overgrazed Swazi Nation range lands was envisaged in the proposal, which would be used in the variable -level of overgrazing- in my sampling design to compare views and characteristics of respondents. Upon my arrival, however, I discovered that such a map or one showing the overall extent of overgrazing in the country did not exist.

An FAO (1994) livestock sub-sector review apparently concurs with this view. Basing his assessment on observations of the communal range two years after a debilitating drought (the 1991-92 season) that killed thousands of cattle; he concluded that

> present range condition appears to be generally fair... Stocking rates on SNL tend to be approximately double those in the commercial enterprises, but they are not necessarily unsustainable, and both carrying capacity and range condition assessments should be qualified in terms of the production objectives of users. While the botanical composition in the communal range would not satisfy commercial production objectives, it generally, meet SNL requirements. Carrying capacity determinations are further complicated by the significant contributions of crop residues to livestock diets during the winter months (: 25-6).

Mace (1992) and Horowitz (1979) have also commented on the analytic void that informs the government's policy of de-stocking SNL, range lands. The optimal carrying capacities that are recommended for the communal rangeland are derived from western commercial ranching standards, not on studies of animal husbandry under African small holders, as is the case with Swazi nation land. In other words, the assessment of SNL's carrying capacity of 3.76 Lsu/ha (MOAC, 1992) as the highest in the world is justified if SNL was a private commercial cattle ranch, managed solely for beef production.

Contrary to the official view of cattle numbers are the views of the rural cattle owners, whose experience has taught them that it is wiser to keep cattle for longer periods in order to harvest the maximum product, including sale. Thus, they do not feel obliged to sell-off cattle at the time when they are just beginning to reap flow products from them. In addition, the meat preferences of urban dwellers do not generate sufficiently high price premium for tender beef to affect the rural dwellers' decisions. They will not sell calves.

What is to be done about this situation, given the dramatically different positions between the official point of view and cattle owners due to the obviously different situation on the ground? The two positions are at cross-purposes with each other. Officials, advised by the scientists and technical experts, claim to be modernising the livestock sector by devising various large-scale schemes, which the rural people regard as foolish and as irrelevant to them. How do we bring these two views together for a harmonised effort towards rural development and the uplifting of rural standards of living?

Rural homesteads that keep cattle believe that the government, by urging them to sell-off their cattle, is trying to swindle them into poverty rather than development. They were asking: "What is wrong with being developed and keeping one's cattle at the same time, why does development hate cattle?" Respondents firmly believe that cattle are the best possession a Swazi person can own; that cattle are more reliable than even one's own children--who can migrate to town and desert their parents without support. Cattle, meanwhile, especially a large herd, look after one faithfully. Even in a drought, a few cattle do survive and multiply when the rains come again. This way, one always has cattle to fall back on when all else--crops, wives, children--fail. So far, development has not provided these people with as good an alternative. For the indigenous Swazi, at this time, a herd of cattle is a pillar to rely on.

Selling an animal involves a decision about whether the price offered is higher than the value of flow of products and services (including future sale or slaughter) that could be derived from keeping the animal. The flow of future returns characterises the animal as a capital asset, analogous to any other asset (land, real estate, bank savings deposits, etc.) that yields future in-kind or financial returns, net of the costs of use of the asset.

As capital assets, cattle yield returns through various uses such as draught power, manure, milk, traditional attire, bride wealth, ceremonies of thanksgiving, funerals and wedding celebrations, reproduction, weight gain and real price increases. The present value of an animal (cattle) is determined the same way as any other capital asset: by assessing the present value of all future returns, net of costs, properly discounted by the investor's personal discount rate, to today's value.

Conversations with SNL farmers show that cattle owners do formally calculate their expected present value from holding animals, as indeed, their

behaviour suggests. One task in developing effective policy will be to find out from farmers just what form this unknown decision making process to sell or retain an animal takes. For example, which flow products are valued most highly and the discount rate entering the calculation. The present value of retaining (PVR) an animal, beyond recognising that the present value of future returns from all uses and /or flow products (including prestige, security, respect), plus future sale to the highest value market are relevant. Alternative present values may be calculated for different future use scenarios, the highest of which would represent the best future use and sales strategy.

Cattle will be retained by their owner and not sold if the owner's idea of the PVR is higher than the slaughter values (sale price offered). Dis-investment will occur (i. e. the animal is sold) if any of the following scenarios is true: the owner's PVR is lower than the offered price; the offered price can be invested in an alternative capital asset (e. g, a younger or female animal, business or real estate, education, etc.) which has an even higher PVR; or capital/ savings liquidation is necessitated by financial or consumption contingencies (cash needs). Even in the case of cash needs, the PVR considerations will likely come into play in deciding which animal to sell in order to satisfy that need, to leave the highest total PVR for the remaining herd.

It is instructive to consider that decisions concerning every head of cattle are continuously made relative to marketing. That is, retaining an animal represents a marketing decision by the owner to hold the animal in its current uses since the PVR derived from keeping it is greater than what can be obtained in an alternative market. Implicitly, then, it is expected that every head of cattle is held or transferred to the use (market) which is considered the best current use and marketing option by its owner. A decision to retain an animal, rather than sell it, constitutes an investment on the part of the owner.

Though few cattle are limited to a single use, it is also legitimate to conceptualise homestead's specialised "markets" for specific cattle uses, within homestead's investment market. These would reflect the primary purpose for which the animals are to be used by the homestead. For example, certain types of cattle may be best suited for one main use or market (such as a draught oxen market; a breeding cow market; a market for bride wealth, prestige, respect and self-worth. As well there can be conceptualised a market for cattle slaughtered during special ceremonies and social events.

The construct gives new meaning to the statement often heard in official circles that 'farmers should become more market oriented' (see Appendix 5). Towards which of these markets for live cattle should they orient? Obviously, they should consider all the above market opportunities. The study shows that this is exactly what Swazi farmers do and that, with few exceptions, their marketing decisions are economically rational (Brokken, 1993; Swallow, et al.1986; Doran, et al. 1979). Data on the responses to the 'future use' question showed a few

(32%) 'don't know' responses. These reflect the presence of contingency cattle in the herd. Just as money in a savings account can be kept to meet unforeseen expenditures, to be withdrawn when the need arises, so are these cattle kept for occurrences one can not plan for, such as deaths.

This analysis does not suggest that there is no room for improvement in livestock management and marketing on SNL, but underscores the reality that advice and programs meant to improve cattle marketing must consider all uses of cattle. The marketing of capital assets clearly gives the required comprehensive and coherent framework for the analysis and advice on the marketing decisions of livestock farmers. Thus, advice to sell an animal at a younger age is evidently given without the advisor knowing whether the current market value exceeds the present value of future benefits from interim services, products, and slaughter. In addition, forecasting the supply of commercial slaughter cattle requires information about trends in the composition, use, and value of cattle for non-slaughter purposes as well as domestic slaughter requirements.

There are several alternative cattle uses /markets to which Swazi cattle owners are exposed in their rural economy. Consequently, it is erroneous to orient them to only one of them (the beef market) without either taking into consideration or making provision for the other uses. The dependence on oxen for homestead's energy needs is, in part responsible for the large number of old, male cattle in the SNL herd. Oxen pull the plough and carts to bring in the harvest from the fields, loads of firewood from the forest or kraal manure from the kraal to be spread on arable fields and, potable water from the river. They transport bags of fertiliser from the bus station to the homestead, and so on.

It is instructive to note that male calves only begin to perform these tasks when they are 24 months (2 years) or older. Yet, this is the age at which livestock development advisors as well as their market-oriented policies encourage the owners of cattle to cull their cattle by selling them to the slaughter market. This recommendation, however, ignores a profound truth about the SNL rural homestead production system. That is, these young, male animals are the homesteads future oxen, and are the major source of draught power and traction for many of the homesteads on SNL.

There is a disjunction here: What does the farmer use to fulfil the homestead's need for the above tasks? Without a concomitant provision of alternative and affordable sources of draught power, water, and fuel supplies, there is very little chance of success for such policies to convince rural cattle owners to get rid of their male cattle. The data for this study show that the average age at which male cattle are sold is 9 years, that is, after they had served their term of providing draught power, and after replacement oxen have been trained.

Similarly, female cattle are kept mainly for breeding purposes to aid in the accumulation of a herd. Cows in calf also provide milk to members of a homestead--an essential source of food widely consumed and loved by the Swazi

people--at low cost, even to homesteads without cattle. This study found some evidence of marketing of milk among rural homesteads. When they are beyond bearing calves, old cows are the beasts of choice for slaughter during ceremonies marking any variety of occasions in the life cycle of a Swazi homestead and its members. Together with oxen, mature cows are used to honour obligations for bride wealth or sold to butchers for the beef market. The skins of slaughtered cattle are used to make various items of national dress, whips, and ropes used in spanning oxen.

In various combinations, cattle are also used as the medium of exchange for honouring bride price obligations. The groom who tenders live cattle (*tihamba ngema sondvo*) is still the most respected and held in high esteem by his in-laws. He is regarded with awe and showered with expensive gifts during the wedding ceremony. The bride whose future husband conducts the exchange through live cattle is accorded a high status as the aunt in her family. With this esteem come privileges that include participation in the decisions pertaining to the disposal of such cattle, such as which brother can use them to *lobola* which girl. This sentiment cuts across educational, income and various other status groupings in Swaziland. One is likely to hear such sentiments voiced by a rural, non-cosmopolitan dweller and a highly educated man in the city. The pride emanating from cattle ownership apparently knows no social, economic or political boundaries.

With all the attention focused on cattle as major culprits in the denudation of Swazi Nation rangelands, one feature remains unmentioned for in accounts of the rural homestead production cycle. Cattle do in fact, recycle nutrients--grass and water--into kraal manure and urine, two very essential inputs in the Swazi rural homestead economy (Dlamini, 1992). In turn, these products enhance the fertility of arable soils, which enhances crop yields and adds to homestead food security (Powel, 1988). Hence, livestock and crop production systems enhance one another with cattle eating grasses and crop residues and bringing these to the kraal as manure. The manure is applied to croplands, thus increasing crop yields from those fields, which also means a higher yield of crop residue for the cattle to feed on, after harvest.

In other words, cattle fulfil many non-economic functions to Swazi's life that are very important to their owners' overall sense of well being. Theories that informed past development projects failed to consider these non-monetary functions/ uses which could not be easily assigned a market value, yet are an important variable to a farmer's computation of an animal's present value. They are, therefore, important in swaying a farmer's decision to sell or keep cattle in order to satisfy these non-market functions. Programs informed by modernisation theory failed to factor these issues into their scheme of things, which may explain their lacklustre performance.

6.4 The Politics of the Indigenous Livestock Sector

Problems of livestock on SNL are best understood within the realm of Swazi politics. Owing to its dominance by big cattle owners, the Swaziland government has always had a personal stake in matters related to cattle. Politicians and civil servants who could aid in the implementation of de-stocking are the owners of the largest herds. Hence, proposed ameliorative measures such as the removal of subsidies are quashed in parliament because such action would not be in their interests. Proposals designed to alleviate environmental problems on SNL have not succeeded because everyone is currently potentially a cattle owner.

The land tenure system is the basis of political power and control, upon which the monarchy and all other social and cultural institutions rests in Swaziland. The king holds the land on the nation's behalf and allocates it to those who pledge allegiance to him through the 200 or so chiefs. Chiefs are allocated small parcels of land (chiefdoms) and its inhabitants to oversee on the king's behalf. He (a chief is always a man) enforces Swazi law and custom, rules and values; presides over his local court which can make judgements pertaining to breaches of customary law and hands down punishment to transgressors. In principle, the subject has recourse to seek mediation by the king if dissatisfied with chiefs' ruling. He demands and collects tribute from his subjects, sends messages, edicts and demands from the king to his subjects- rarely from the subjects to the king, as all procedures are top-down. He accomplishes all these in the name of the king.

With the power conferred upon them by the king to allocate, withdraw, or deny land to individuals, chiefs, (and therefore, the king) are the most well placed, to stipulate the number of cattle homesteads graze on the rangelands. They have the backing of tradition and the authority conferred on them by the king as the base of their power. These are legitimating factors that any state-imposed legislation or administrative body would not have. With proper advice and a willingness, chiefs and the king are in the best position to implement measures meant to limit stock numbers grazing on the range lands, and thus, to control overstocking and overgrazing on SNL. Because their position and authority is legitimised in Swazi culture, chiefs can accomplish this task with a probability of success that no state legislation can hope to achieve.

As part of the resistance by the Swazi people to commercialise SNL livestock rearing, in terms of cattle owners assuming more of the costs of raising cattle to owners selling higher volumes of cattle to the beef market. In other words, the 'cattle belong to the king' culture has, among other things, stifled cattle off-take in Swazi Nation Land. The politics of the livestock sector will remain the major stumbling bloc for a long time, until the authorities that be find a way out of linking political power and control over the Swazi people with control over their possessions.

The land tenure system on SNL is a common property resource, which has been characterised as either communal or open access. This is however, an erroneous assessment, based on the lack of understanding of the system by people accustomed to the land tenure system of exclusionary, private property obtaining in the west. In fact, the only aspects of the system that approaches a communal or open access regime are the rangelands. Arable land operates on a more or less private ownership regime, in that no one can cultivate the fields of another homestead without prior arrangement with the allocatee--in the customary practice of seasonal land lending or swapping. Here there are rules governing access, that is, rules guiding which homesteads can graze which area. These rules may not be as strictly and diligently enforced as they could be. Specific grazing lands were allocated to defined groups of homesteads, and these rules were generally adhered to. Only members of particular communities had the right to graze cattle on the piece of land allocated to them.

Arable fields do convert to communal or open access regime in the winter, when all cattle are allowed to graze freely on crop residues. There is no limit at this time as to whose cattle graze on whose fields. However, even with such an open arrangement, there are rules that ensure exclusivity in that, herds from homesteads of one chiefdom are not permitted to graze in the range and crop residues on the fields of homesteads of another chiefdom. In fact, access to SNL rangelands is closely guarded. Subjects of one ward know who has the right to graze on which range, from belonging to a given chiefdom. Disputes emanate from opportunistic behaviour by herd boys who, on observing that the range in their area was badly denuded, decided to drive their herd in search of better grazing, and into the range of another chiefdom and been caught.

Even within the same chiefdom, homesteads are assigned a grazing area on a ward basis. A piece of land that has been designated as grazing land is allocated to a group of homesteads living close-by and within livestock walking distance from that patch of land. The custom is that only those homesteads have the exclusive right to graze their animals on this land, and no other. Homesteads from other wards cannot graze their herds on this land. In other words, there is quite a degree of exclusiveness, even on the grazing lands.

When queried about a situation in which a herd of cattle belonging to a non-member homestead strayed on to the grazing area of another community, the majority of respondents (55%) said members of their community feel bad. The cattle were driven away or, if this became a habit, the offending herd owners were reported to the local chief for arbitration. Thirty-two percent of respondents said this had never happened in their community, because every homestead knows where their cattle are supposed to graze.

When someone brings cattle to an area under the sisa arrangement, however, all that has to be done is report the cattle to the dip tank committee. The recipient homestead registers them under its name and then proceeds to graze these on the

designated community's rangeland. Intrinsic in this process/procedure is the potential for controls on the stocking rate, as well as on overgrazing. The dip committee is in a position, if entrusted with the power, to tell members not to bring in more cattle. The issue of open access is controllable in this case.

The procedure of gaining access to SNL grazing land as described by respondents in this study, demonstrates the existence of rules governing access to SNL rangeland. That is, rules to exclude cattle of non-member homesteads from grazing a particular piece land that has been designated as grazing land of another ward or chiefdom. That local residents know which herds can graze where, and can chase transgressors away, or report them to the local councillor (*indvuna*), means that some cattle herds are excluded while others have grazing rights to particular pieces of land.

The use of Swazi Nation Land rangelands is not therefore, the classical 'open access' scenario discussed in the tragedy of the commons literature. 'Open Access' use of a resource is not regulated or controlled by any social institution, consequently anyone may use the resource in any manner or quantity they desire. This is distinct from common property, which is controlled and used by an identifiable group' (Fortmann & Nhira, 1992:16). According to Bromley (1992), 'open access' resources are resources over which no property rights have been recognised (p.4).

Furthermore, clear institutional rights of access for given groups of homesteads exist though these are loosely enforced, as do rights to exclude cattle herds belonging to homesteads outside the group. The rules relating to access by non-community members under such practices as *sisa* may need enforcement, but rudimentary rules governing use exist. The calls for a 'land use plan for the rational use of SNL' (Nkambule, 1983; MOAC, 1982; 1995) should incorporate provisions for tightening up loopholes, in these rules. The problem with sisa cattle overstocking local SNL rangelands requires further investigation, initially to find out the prevalence of the sisa practice in rural Swaziland. This study found sisa cattle to compose 11 percent of the herd, with 20 percent of homesteads keeping cattle under sisa.

The solution to overstocking of SNL lies in the introduction of rules stipulating who is allowed to bring in cattle under sisa. There could be a stipulation, for instance, that only homesteads without cattle of their own, or homesteads with a herd size below, say, the 14 cattle necessary to make a sustainable herd, be allowed to accept cattle under sisa. This could be a means of controlling stocking rates in an equitable manner, ensuring all rural homestead members have access to essential flow products. There currently exists adequate legislation through the Agricultural Resource Conservation Act, which gives the government wide powers to control the number of livestock on Swazi Nation grazing Land. It has been argued that this failed due to the absence of political will to effect the legislation.

The other important point to note in this discussion is the question of whether herders do actually perceive range degradation as being a consequence of overstocking. According to Hubbard (1980), degradation is not easily and clearly discernible because of its long-term nature and seasonality, as well as drought related cyclical changes in range quality. Herders' view range degradation as more a result of drought and climatic changes than a result of their own action. This was the prevalent view among respondents to this study.

Due to the lack of social assistance and adequate retirement income, many people retire to the rural areas. Hence, there is a need for individuals to ensure that during their career, they put in place the necessary instruments for survival in the rural setting/lifestyle. These include, among other things, a reasonably sized herd of cattle (currently 14 animals), sending some money to members of one's family still residing in the rural homestead, showing up for family functions--either funerals, weddings or honouring ancestors. Such actions ensure a smooth re-integration when they retire and makes it easier to reclaim one's share of the family estate--the land and all the benefits it encompasses. In addition, many urban-based workers are buried in the rural areas with the rest of their ancestors, which is quite a strong incentive for one to maintain a strong amicable link with their rural homestead of origin.

Overstocking and overgrazing are just as much a relic of the colonial past as the dual judicial, political and economic, cultural social institutions, which Swaziland inherited. Its solution or eradication will not be a simple exercise, nor will it be the work of one ministry or minister. It will involve the streamlining of duties and responsibilities among and within ministries as well as a meaningful dialogue with owners of cattle that graze on SNL.

It is not only dwellers in rural homesteads who own cattle. High-ranking civil servants and businesspersons buy and own cattle that are kept by their relatives in the rural areas, in their private farms or government operated sisa ranches and feedlots. Therefore, it is crucial to find out the functions (other than those of subsistence, which are more applicable to rural dwelling stockowners that cattle fulfil for this group of cattle owners. It is only with such insights that appropriate ameliorative policies can be formulated and implemented, with a good chance of success in relieving range degradation.

The custom of *'kweftula'* (tribute offer), whereby the king or chief can occasionally ask his subjects to contribute cattle to enable him to fulfil some obligation or another- such as to *lobola* a wife- has provided cattle owners a loophole. There is a tendency for indigenous Swazi cattle owners to claim that the cattle they keep belong to the king, because when he asks for cattle, they cannot refuse. Although these requests are a reality of Swazi culture, they occur rarely and invoking them as a reason for failing to cull one's herd is a ploy by owners to avoid pressures to de-stock.

To the extent that the cattle industry enjoys high EEC prices without being held responsible for the high financial expenses incurred in maintaining this market, cattle producers receive higher prices than they would if they carried the burden of these expenses. It has been argued (Doran, et al 1979; 1980) that high prices suppress off-take rates because cattle owners need sell only a few animals to satisfy their occasional cash shortfalls. In other words, the artificially high prices encourage hoarding cattle, as their value as a store of wealth increases.

Because of the subsidies to this sector, it is considered a fiscal drain on the government budget. The main conclusion of this report was that artificially high price, and heavy subsidies have made the cattle sector highly profitable and artificially attractive for investment. This is probably not a bad evaluation for development effort, if it were not for the environmental degradation that accompanies the investment in and hoarding of cattle. Consequently, the indigenous livestock sector has turned out to be the medium through which revenues from the formal sector are siphoned-off to the traditional sector. The inappropriateness of this situation has been pointed out FAO supported Livestock Sector Review of 1994 which stated that

> No other productive sector in Swaziland has received a larger subsidy and, although it increases economic opportunities for cattle owners, it is clearly unfair and it inhibits other industries. It could be argued that a major industry such as this should be required to make a net contribution to government revenues instead of detracting them (: 41).

Yet, when a person sells his cattle he does not pay sales tax. No levy is applied on income from SNL cattle sales -except those sold at auction sale yards, which is why rural sale yards have failed to take off. Cattle owners tend to avoid them because they have to pay a certain percentage of the price that could then go into government coffers to reimburse for the services rendered. This makes investing in cattle quite a lucrative activity.

The use of cattle as collateral for credit loans is almost tantamount to official endorsement for an increase, rather than decrease, in herd sizes. The situation is exacerbated by the imputation of a value lower than they would fetch at the market on cattle pledged as collateral. Hence, a farmer requires an even larger herd to get a useful loan from the local banks. The financial institutions claim that this practice is a hedge against defaulters. It is clearly incongruous with the de-stocking policy.

Cattle are not free, however. In fact, they are quite expensive. Yet this does not stop every Swazi--especially men--to hope/plan or look forward to owning a few animals someday. There are exceptions to this statement though, as in the case of inherited cattle; cattle received as bride-wealth (this is a moot point, as it entails

an exchange of some sort) cattle received as gifts through various cultural practices, etc. In fact, at any one time, statistics show that only 60% of rural homesteads keep cattle.

It is not known, for certain that if people were charged for dipping and dipping chemicals; for laboratory and specialist services or even for grazing, they would they get rid of their cattle. Nor at which costs levels the returns from cattle ownership diminish and compel cattle owners to react in this manner. Which returns would be likely to be affected by cost increases--the socio-cultural or the economic values of cattle--is not clear; just as it is not clear how this would play out in the decision to cull one's herd. Given the historical and cultural role of cattle among the Swazi people, their attachment to their culture coupled with the fierce determination to preserve Swazi culture, one wonders how far the Government would be willing to prune the SNL herd.

Recent developments like Structural Adjustment Programs have resulted in soaring food prices. Many people have responded by seeking cheaper sources of food (such as milk from small dairy farms than from shops, chicken from small operators than supermarkets). How will de-stocking policy, which has the potential of impoverishing and denying the poor access to food--be synchronised with a policy of ensuring food security to the nation.

Cattle ownership transcends class and social position (status) in Swaziland. Everyone and anyone can own cattle and, everyone feels the same about owning cattle. Those who own none aspire to own some. Those who own some, hold on to them. This is true across the board. The social, economic and political dynamics of cattle ownership in Swaziland, finds politicians and government policy makers, who are supposed to be exemplary upholders of government policies, being the owners of some of the largest herds of cattle. The land tenure system, the society, the prevailing culture, and the political and economic climate encourage, condone, and or facilitate cattle ownership and hoarding of cattle.

Indeed, those few respondents who had succeeded in buying cattle had purchased young female cattle for breeding and herd accumulation. The respondents were of the opinion that their homesteads did not have enough cattle and needed to augment their herds by purchasing more cattle. This, of course, is in sharp contrast with the official view that there are still too many cattle roaming SNL range, and that de-stocking must continue. The views held by those on the homesteads bear testament to the obstacles that government officials face, in persuading cattle owners to cull their herds.

6.4.1. Alternative Investment of Money Earned from Cattle Sales

The debate in official circles often centres on the issue of what farmers will do with the money earned from cattle sales. The consensus is that the policy of de-stocking SNL, via increased sales of cattle to the beef market, should be accompanied or preceded by an intensive extension education on financial

management. Swazi Nation Land cattle owners would have to be taught financial investment and management techniques. Since vigorous de-stocking would entail sales of cattle that are not triggered by immediate cash needs, as is the case presently, some farmers may not have concrete plans on how to invest large amounts of cash. Programs would have to be in place to assist some cattle owners, especially the non-cosmopolitan, rural owner, on how to manage the money they make from higher volumes of cattle sales.

Such planning would aid cattle owners to use the income wisely and not extravagantly. Without the implementation of such a program, cash could be haphazardly spent on non-durable or non-income-earning products, which do not have the capacity to look after the needs of their owners the way cattle do. This could contribute to rural poverty and social turmoil at the national level, conditions which are contrary to the aims of the policy of de-stocking SNL range lands. Re-invigorating SNL range lands, and not de-stabilisation of the national socio-economic, political and cultural fabric, is the goal of the policy of de-stocking SNL range lands.

Once information on cattle equivalents is known, programs can be put in place to design and evaluate the viability of farmers' proposed projects so as to ensure the wise investment of earnings from cattle sales. Credit services--to assist farmers with the purchase of tractors or to start small business enterprises, as well as mortgage facilities for the construction or purchase of modern houses--would be an important part of any package of the de-stocking policy.

The corollary issue to these finance and investment issues is whether these options would replace cattle as an indicator of wealth, or would they merely supplement/complement cattle ownership. In other words, are these indicators of wealth adequate, in and of themselves, to bestow a high wealth rank, if a person or homestead does not also own cattle? Are they sufficient alone, when one has no cattle, or are they worthwhile indicators in addition to cattle?

In this study, the number of assets each homestead reported that it owned, apart from cattle, measured the wealth of the homestead. To facilitate the wealth ranking of homesteads in the sample, respondents were asked to indicate which three of the alternative indicators of wealth that their homestead actually owned--over and above cattle. Respondents were asked to specify up to three of the wealth indicators that they owned. Ultimately, this information was used to assess the presence or absence of a statistical association between a homestead's stock of wealth and its cattle-marketing behaviour.

Would a head whose homestead comprises mainly of modern houses, owned a tractor, was a surplus/cash crop producer, and drove a car be regarded as wealthy and command respect among his peers? Would these attributes make him worthy of appointments to the chief's council or to parliament? Hence, the rationale for inquiry into the other assets that may indicate a homestead's wealth besides keeping cattle.

Asked if they would sell some or all of their cattle to acquire the other assets they had identified as alternative indicators of wealth, 70 percent of respondents in this study said they would not. This poses a dilemma for the de-stocking policy--and this is the crux of the problem. If cattle owners acknowledge the existence of other prestigious possessions, yet are unwilling to part with their cattle, then where does the government go from here? This sentiment is responsible for the difficulty that efforts at persuading cattle owners to diversify their investment portfolios and cull their herds have faced in the past. Seemingly, this will occur in the future as well.

Care should be taken, though, in making suggestions for alternative investments, keeping in mind the heterogeneous nature of cattle owners. An array of alternatives should be presented and analysis prepared for their viability as investments. For instance, encouraging cattle owners to purchase tractors with income earned from cattle sales would not appeal to or be relevant to all owners.

Cattle owners are a heterogeneous group. Not all cattle owners are rural dwellers, and that even among rural based cattle owners, there are differences based on variables such as herd size, homestead size and structure, access to cash income, and so on. These factors have a bearing on the marketing behaviour of the owner.

A policy incentive likely to induce a salaried, urban dwelling herd owner to cull his herd may not have the same appeal to a rural based herd owner, who depends on cattle for a larger portion of his homestead's subsistence. It is crucial, therefore, to find out what factors affect the behaviour of the various groups of cattle owners in terms of amassing herds, and whether recommendations for a diversification of government policies regarding de-stocking would be appropriate.

Given this diversity in the profiles of stockowners, it is the contention of this thesis that blanket policies that ignore the heterogeneity of ownership will not succeed in raising off-take rates. Targeting policy at specific groups will go a long way towards influencing off-take rates and thereby redress the problem of rangeland degradation on Swazi Nation Land.

Development is about money--the more, the better--yet money is a most unreliable commodity. Prices of the milk that they may get from their cows as well as the bread, maize, and so on increase everyday. If owners were to sell their cattle, how long would the money last? One has to keep in mind that some of the cattle owners are old, uneducated rural dwellers, without many marketable skills to sell in the urban centres of employment. If they were to lose their source of milk, draught power, manure in an economy with two-digit rate of inflation and no social welfare payments, how long, indeed, would they survive?

The poverty that would arise--and the rural to urban migration to towns, which are currently heaving under the weight of present unemployment, over-crowding and high criminal activity--would be beyond the capacity of the nation

to cope. The country does not need this kind of development. Rather, it would be a degeneration of the society.

6.5 Conclusions

The thesis shows that there are several disjunctions between conventional wisdom, which is reflected in the current Government policies of de-stocking, which is itself based on the old colonial mentality, and the aims and objectives of the indigenous livestock sector in Swaziland. Although the findings in this thesis show that Swazi people continue the tradition of keeping cattle and still feel that cattle are an important indicator of wealth and status, they also showed that the keeping of cattle goes far beyond mere adherence to tradition. Government policy, however, continues to be based on the premise that Swazi people can and should be integrated into the modern economy by raising cattle for the beef market. Practices of Government departments--urged by international experts—are structured to meet this end. Swazi people, as this study showed, are not ranchers, raising cattle for b for commercial slaughter. They keep cattle for sustenance, which includes occasional sales, when cash or herd renewal is necessary. This disjunction between the reality on Swazi Nation Land and Government policy is evident in a number of different ways.

First, the government policy of de-stocking--inherited from the colonial administration--which encourages the sale of male cattle at the age of 24 months, ignores the fact that this is the age when male cattle start training for draught duty as oxen to pull the plough in arable agriculture. A farmer who depends on oxen for draught power--as 83 percent in this study do-- will not sell his male cattle just as they begin to be of service to him. Also, older oxen are used in the training of young oxen. They are the *emafolosi*, which are put at the front of the span and show the new-comers how to adjust to the yoke, keep in line (farrow), and follow orders from the driver of the span of oxen.

Secondly, Swazi cattle owners sell cattle not meat. Hence, to them the weight, rather than the quality of meat is more important in ensuring that that their cattle fetch the highest price, when they do sell. As a result, when they need cash, they sell the oldest animal in the herd--rather than the young whose meat is most favoured in the market--because that will be the most likely heaviest, and will thus fetch the most dollar value. Oxen tend to be heavier, hence the high off-take among this type of cattle.

Thirdly, due to the prevailing socio-economic and political conditions in Swaziland, it makes a lot of sense to have a large herd. As outlined in the literature and the thesis, there is currently no social security handouts in Swaziland, no old-age pensions, no unemployment benefits and no retirement income. Even for those who are engaged in the labour force, this is not enough to sustain an acceptable standard of living, without recourse to the subsistence sector on SNL. With Swazi people having large families and extended kin as well in many cases grandchildren

to support, many people retire to the SNL. Survival in these conditions requires among other things, a reasonably sized herd of cattle. In addition, the recurrent drought and lately, diseases, which kill a fair number of cattle in every kraal, mean that one needs a large herd of cattle to survive. The net result of this scenario is that cattle ownership is coveted by all Swazi people, irrespective of age, class, educational and salary level, or employment status.

Fourth, current rural and livestock development policy assumes that the participation of Swazi people in the modern sector will diminish the need for keeping cattle, thus resulting in fewer cattle kept and a reversal of the perceived overgrazing of SNL. The data in this thesis clearly show that this is not the case. Swazi people who were employed in the modern sector and receiving a wage, were significantly more likely to hoard cattle. In fact, they were the ones buying cattle, ostensibly as investments for old age. Given these conditions, cattle will continue to be kept and hoarded by Swazi people. Those who own cattle hoard them, while those who own none, wish to own some. This wish is sustained by the land tenure system, which avails to all Swazi the opportunity to accumulate cattle and graze them free on SNL.

Finally, Cattle off-take, which conventional wisdom perceives as low, is not just sales for commercial slaughter. Swazi people eat beef, some of their cattle die, and they sell cattle when this is the appropriate manner of disposal, at the given time. When all these forms of removal of cattle from the SNL are included in the calculations of off-take, the thesis showed that the off-take rate is much higher. If the Swaziland Government has the interests of its people at heart--which can not be said for the colonial administration from which it inherited de-stocking—should not be urging the Swazi people to get rid of their wealth (cattle). Instead, this sector should be nurtured, as it is the only industry in the country in the hands of the Swazi people. It is also a shock absorber, cushioning the Government from the costs of providing social security payments, unemployment benefits, retirement income, and old-age pensions. Until and unless, the funds are available for the provision of these services, the indigenous livestock should be nurtured, rather than resented or annihilated, by the national Government.

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File 865 Agricultural Policy (Colonial)
File J 78/03 Introduction of Cattle from the Union
File K Proclamation No. 2 of 1915
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Code Sheet

Of Interview Questions for the Study on

Inkhomo Yinsila YemaSwati: Cattle Ownership, History, Culture, and the Environmental Question on Swazi Nation Land

By

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1997

Section A: Homestead Membership and Employment data

MembNumb enter number

MembSex Is s/he? Male 1
female 2

MembAge How old is s/he?

age
don't know /missing data 99

Marstat: What is his/her marital status?

Never married, no children	1
never married, with children	2
separated / divorced	3
widowed	4
married	5
don't know / missing values	9

Relation: What is the relationship between her/him and the head of this homestead?

no relationship	00
head / self	01
wife	02
parent	03
sibling	04
child	05
Son /Dau-in-law	06
grand child	07
Friend	08
other relation	09
Bro / Sis-in-law	10
don't know / missing	99

Educlevl: How far did s/he go with her/his education?

none	00
1 -7 yrs (primary)	01
8 -12 " (secondary/high)	02
Post-sec / tertiary	03
don't know / missing	99

Residenc: Does s/he live in this homestead?

not a resident	00
full time resident	01
part time resident	02
missing data	99

Location: Where is his/her place of employment?

Don't know	00
Inside Swaziland	01
Outside "	02
Missing data; n/ a	99

Absence: For how long has s/he been away from the homestead?

Indeterminate	01
3 months or less	02
4 to 6 months	03
7 to 12 months	04
Over a year	05
Missing data; n /a	99

Occupatn: What is his/her occupation?

Student	01
Self- employed	02
Professional- employed	03
Manual laborer	04
Unemployed	05
Missing data; n /a	99

Remitanc: Does s/he send any of the following back to the homestead?

None	00
Money / cash	01
Food / clothing	02
Combination of 2 and 3	03
Missing data; n /a	99

CatleOwn: Does s/he own any of the cattle in this kraal?

Yes	1
No	2

GoatsOwn: Does s/he own any goats in this kraal?

yes	1
no	2

Section B: Herd Composition and Ownership

HeadNumb Enter number

HeadSex:	Is the animal	male	1
		female	2
HeadAge:	How old is it?	Less than 1 year	31
		N /a; missing	99
HeadOwn:	Is the animal?	Your (Head) own	01
		sisa in	02
		Missing data	99

RelatOwn: How is the owner of the head related to the head of this homestead?

No relationship	00
Head / self	01
Wife	02
Parent	03
Sibling	04
Own child	05
Son/ Dau-in-law	06
Grand child	07
Friend	08
Other relation	09
Bro / Sis-in-law	10
n /a; missing	99

Acquire: How was the animal acquired?

Don't Know	00
inheritance	01
purchase	02
off spring	03
bride wealth	04
gift	05
sisa in	06
Exchange	07
missing data	99

PresentU: What is the animal being kept for presently?

Don't know /undecided /nothing	01
draught power	02
milking	03
breeding / Accumulating herd	04
savings	05
slaughter /ceremonies	06
Breeding + milk	07
Manure + milk	08
Exchange	09
missing data	99

FutureU: What will it be used for in the future?

Don't know / Undecided / nothing	01
draught power	02
milking	03
breeding / Accumulate herd	04
sale	05
slaughter/ ceremonies	06
bride-price	07
Breeding + milk	08
Manure /milk	09
N /A; missing data	99

Section C: Livestock Ownership and Marketing

Cattsold: How many cattle did you sell in the last 12 months?

None = 0

AgeSold: How old were the cattle you sold?

Reasell: What was the reason for selling the cattle?

1 = school fees
2 = build house
3 = buy fertiliser/ seed
4 = Pay medical fees/ death
5 = go looking for a job
6 = to fix/ repair car/ tractor
7 = to buy maize/ food
8 = too old / sick
9 = too greedy-eating other people's crops
10 = to purchase female/ young cattle

11 = sell them before they are stolen
12 = right age to sell off
13 = to cover daughter's wedding expenses
99 = missing; N /a

PriSold: How much did you sell the cattle for? ('00)
99 = missing; n /a

TotGoats: How many goats are in your homestead's kraal?
None 00

GoatSold: How many goats did you sell in the last 12 months
None 0
N/ a 9

ReaSold: What was the reason for selling the goats?
***** see codes above*****

PriSold: How much did you sell the goats for? ('00)

GoatSlau: How many goats were slaughtered in the last 12 months?
None 0
N/ a 9

ReaSlau: What was the reason for slaughtering the goats?
1 = To eat / home consumption
2 = To sell meat
3 = wedding ceremony
4 = Funeral/ cleansing ceremony
9 = Missing; n/ a

GoatDied: How many goats died in the last 12 months?
None 0
N/ a 9

CattleBy: How many cattle did you buy in the last 12 months?
None 0

CatleAge: How old were the cattle? N/ a 99

Catprice: How much did they cost? ('00)
N/ a 99

CatLost: How many cattle got lost in the last 12 months?

None	0

Section D: Domestic Cattle Slaughter and Use of Products

Dateslau: In which month were the cattle slaughtered?

None	00
Jan;	01
Dec	12
n/ a; missing	99

TypeSlau: What type of animal was slaughtered?

ox	1
bull	2
cow	3
calf	4
n/ a; missing	9

Aganimal: How old was the animal? enter age

missing; n /a	99

Puprice: How much did you pay for it (them)? enter value

n /a	9

ReasoAny: Usually, what circumstances would make you slaughter a head of cattle?

Home consumption	1
Funeral	2
Best/ only available animal	3
Giving birth/ Dying from disease/ old age	4
Wedding	5
Sale of meat	6
Kuphahla (Ancestral Offering)	7
Infertile/ inyumba	8
n /a; missing	9

ReasThis: What was the reason for slaughtering this animal? enter value

*****See Codes Above****

SkinDisp: How did you dispose of the skin(s)?

Sold in neighbourhood	1
Sold to government agency	3
Sold to private trader	4
Kept for clothing	5
Thrown Away	6
Kept for making ropes	7
n /a; missing	9

MeatSale: Was any meat sold?

Yes	1;
No	2
n /a	9

Section E: Use of Products from Fallen Cattle

DateDie1: When (mo) did the animal die?

None	00
Jan	01
Dec	12
N /a	99

Typedie1: What type of animal died?

Ox	1
Bull	2
Cow	3
Calf	4
N /a	9

Agedie1: How old was the animal when it died? Enter age

n/ a	99

Causedie1: What was the cause of death?

Don't know	0
Snake bite	1
Drowned	2
Killed by Neighbour	3
Lightening	4
Disease	5
Red Water (mbendzeni)	6
Giving Birth	7
Missing; n /a	9

MeatDis1: What did you do with the meat from the dead animal?

Eaten by Homestead members	1
Sold to neighbours	2
Fed to dogs	3
Thrown away	4
Missing; n /a	9

Dispskin: How did you dispose of the skin(s)?

Sold to neighbours	1
Sold to government agency	2
Sold to private trader	3
Kept for clothing	4
Thrown Away	5
Making Ropes/ tilwabhu	6
Eaten by dogs	7
Missing; n /a	9

Section F: The Use of Milk and Milk Products

CowBreed: What breed is the cow?

Exotic breed	1
Nguni/ Tesintfu	2
missing; n/ a	9

StartMilk1: Which month did you start milking it?

Jan	01
Dec	12
n /a; missing;	99

Prodcow1: How many litres of milk does it produce per day?

Missing; n/ a	99

NumCalf1: How many calves has it given birth to since maturity?

Missing; n /a	99

CalfDie1: How many have died?

None	0
Missing; n/ a	99

Milksale: Have you sold any milk in the last 12 months?

Yes	1
No	2
Missing; n /a	9

Litresld: How many litres of milk do you sell per day?

Missing; n/ a	99

Price/Lt: How much do you charge per litre? Missing; n /a 99

MlkBuyer: Who are your usual customers?

1= Friend/neighbour
2 = Local grocery shop
3 = Nurses at Local Clinic
4 = Local school teachers
9 = Missing; n /a

BuyMilk: Did you buy any milk bought in the last 12 months?

Yes	1
No	2
Missing; n /a	9

Litre/day: How many litres do you buy per day.

Missing; n/ a	9

Price/Lt: How much do you pay per litre ('0).

Missing; n /a	9

MlkSorce: Where do you usually buy your milk?

1 = Friend/neighbour
2 = Local grocery
3 = Supermarket
4 = Other - specify
9 = Missing; n/ a

Section F: Use of Cattle for Homestead Energy

Draftcond: In the past season, did the condition of draught animals delay the cultivation of your fields?

We do not use/ have draft oxen	0
Yes	1
No	2
n/ a	9

ConCause: What is the main cause of poor condition in oxen?

Early spring- No grass	1
drought	2
Size of range land:- small/ inadequate	3
Diseases	4
n /a	9

Coremedy: What remedy can you recommend for this problem?

Nothing/don't know	0
Fee them hay/ Mineral lick	1
Send cattle to Lowveld	2
Resettlement of homesteads and Fence off grazing area	3
Cut and store stover	4
Chief should allocate more land for grazing	5
N/ a	9

DelayOpr: Which agricultural operations were delayed last season due to poor condition of animals?

Land Preparation	1
Planting	2
Inter row- cultivation	3
All	4
Missing; n/ a	9

TractorU: Did you use a tractor in your fields in the past 12 months?

Yes	1
No	2

TrSource Whose tractor did you use? Mine 1

Government	2
Neighbour	3
Friend/ Relative	4
n /a; missing	9

Section G: Costs of Livestock Rearing

1. Herding

Relherder: Who looks after your homestead's cattle? enter value

***RELATION TO HEAD: ***

Ageherd: How old is s/he? enter age

missing 99

Gender: Is s/he male 1

female. 2

Payment: How is s/he paid for the service?

Not paid	1
Herder given food for payment	2
Herder given clothes as payment.	3
Herder given livestock as payment.	4
Herder paid cash.	5
Herder paid some combination of 2 and 3	6
Herder paid some combination of 2 and 5	7
Missing data; n /a	9

ProbHerd: What problems do you have relating to herding?

None	0
Very few herders around to hire.	1
It is too expensive to hire a herder.	2
Herders are very careless/ untrustworthy.	3
Missing; N/ a	9

2. Supplementary Feeding

Supplent: Do you feed your cattle anything else in addition to grazing the range? Yes 1; No 2

TypAnifed: What type of cattle do you feed supplements? Oxen 1; bull 2

Milking cows	3
Cows and calves	4
All	6
n/ a	9

TypOfspl: What type of supplement do you feed to your cattle?

Mineral Lick	1
Hay / dairy meal	2
Rotten maize (titjegu)	3
Maize stover	4
Bone meal	5
n/ a; missing	9

Totalfed: How many cattle are fed the supplement? enter value

n/ a; missing	99

Freqfeed: How many times are they fed the supplement?

Every day	1
Once/ week	2
Once/ month	3
n/,a; missing	9

Monthfed: During which months are they fed supplements?

Summer	1
Autumn	2
Winter	3
Spring	4
All year Round	5
Missing; n/ a	9

CostSupl: How much the did the supplements cost in the last 12 months?

don't know /nothing	00
Missing; n /a	99

3. Veterinary Medicines and Dipping

VetMedic: In the last 12 months did you give your cattle any medicines or injections?

Yes	1
No	2
Missing; n /a	9

Desease: What disease were they suffering from?

None/ prevention	0
Foot and mouth	1
Worms	2
Diahorrea	3
Red Water/ Mbhendzeni	4
Weight loss	5
missing; n /a	99

Animtret: Which type of animals were treated?

Oxen	1
Bull	2
Cow	3
Calf	4
All	5
n/ a	9

Totlreat: How many animals were treated?

n/ a	99

Costreat: How much did treatment cost ('0)?

Don't know	00
n/ a	99

MoneyDip: Did you pay any money at the dip tank in the last 12 months?

Yes	1
No	2

MoneyUse: What is this money used for?

0 = Don't know
1 = Buy tank / fence repair material
2 = Mending fence
3 = Hiring truck to transport cattle to auction sale
4 = Buying vet. injections/ medications/ equipment
5 = Fine for failing to attend meeting or repair dam site
6 = bus fare for technician to take samples to town for test

7 = buy petrol/ electricity for engine pumping water into tank
9 = Missing data; N /a

DipChore: Are there any chores that you have had to perform at the dip tank in the last 12 months?

0 = none;
1 = Fill/ empty tank with water
2 = Mend canal
3 = Mend Fence
4 = pay money every year
5 = Attend meetings
6 = Castrate bulls
9 = missing data

Views: Opinions concerning these common views on the issue of dipping chemicals

View1Che: Government should continue to buy dipping chemicals for us.

Agree	1
Disagree	2

Reason1: Give reasons for your opinion.

We pay Taxes	1
What does the govt. do for us rural people/We are poor	2
Govt. has money/ It is government's duty	3
Government collects no revenue from cattle sales	4
It is government who insists on dipping cattle	5
We already buy our own chemicals	6
We do not trust Vet. Assistant and dip committee	7
It takes us too long to contribute money to buy	8
Cattle belong to the king	9

View2: It is not fair for people with no cattle to buy dipping chemicals for cattle owners through their taxes.

Don't know/ no opinion	0
Agree	1
Disagree	2

Reason2: Support your opinion

They, too, will be cattle owners some day 1
They eat the beef from our cattle / our oxen to plow/ to pay lobola 2
They are preserving the wealth of this nation 3
Healthy people pay for health care costs which benefits the sick 4
It is not fair to subsidize other people's businesses 5
When I slaughter a beast for weddings and other ceremonies, everyone eats free 6
Cattle belong to the king, so he should pay 7
Missing data 9

View3: People who own more than 10 head of cattle should pay some money per beast, per year for each animal over and above the 10

Agree 1
Disagree 2

Reason3: Why? Figure too high, otherwise agree in principle 0
We do not have money/ can't afford 1
Our cattle belong to the king 2
What would the money be used for? 3
We pay taxes, use that money 4
Cattle are our bank, why should we be limited how many we have 5
Then govt. can continue buying chemicals for us 6

View4: Cattle owners often claim that their cattle belong to the king. Do you agree with this claim?

No opinion/ Never heard of it 0
Agree 1
Disagree 2

Reason4: Why do they make this claim?
Chief can demand cattle for fines/ gifts etc. from subjects in name of king 1
For national ceremonies, anyone's cattle are used without payment 2
In Swaziland people, together with all their possessions, belong to the king 3
Cattle came to Swaziland as bounty through wars, and people who kept them did so for the king 4
N/ a; missing 9

Section H: Communal Grazing

Summgras: Do your cattle get enough grass from range in summer?

Yes	1
No	2

Reasumm: Why is there not enough grass for your livestock?

Drought/ no grass	1
Too many trees/ many rocks	2
Too many cattle grazing our range	3
Grazing area too small	4
Grass of poor quality	5
Govt. has sold our land to RSA for the driekoppies dam	6
N/ a; missing data	9

RemedSum: What can be done to ensure adequate feeding of your cattle in summer?

Don't know	0
Buy hay	1
Chief should allocate more land for grazing	2
Reduce the number of cattle	3
Fence grazing area	4
Missing; N/ a	9

Morecttle: In your opinion, can the range feed more cattle than the present number?

Yes	1
No	2
Missing	9

Decline: What has caused the deterioration of the range?

Drought	1
Too many Cattle	2
Wild fires	3
Bush encroachment	4
Termites	5
The land is just enough for the present no. of cattle	6
New RSA dam has flooded our range land- it's now small	7
missing	9

ComActio: What activity has your community engaged in to reactivate/ invigorate the grass growth?

Don't know/ nothing	0
Stop burning grass in range lands	1

Each member of community has paid money to fence range area	2
We have asked govt. to demarcate range lands to facilitate Rotational grazing	3
n /a ; missing	9

Suggest: What would you recommend be done to invigorate the growth of grass in your community's range land?

Have no idea; Nothing	0
Designate and Fence off grazing land	1
Rotational grazing	2
Kill termites	3
Uproot trees	4
Chief should not allow more people and their cattle to settle in area	5
Missing data	9

Limit: If government were to place a limit on the number of cattle each homestead could keep, what would you do with your excess stock?

Don't know/nothing	0
Don't agree with placement of limit	1
Distribute among friends and relatives on sisa arrangement	2
Sell them	3
Pay bride price for wife	4
Return sisa'd cattle to owners	5
It would not affect me; have few animals	6
Send them to govt. sisa ranch	7

Section J: Production Constraints

ProdCons: Give me the three most important factors, which in your opinion, prevented your herd from increasing these past 12 months.

Rank	Factor
00	None
01	Inadequate funds to purchase animals
02	Inadequate fund to purchase other inputs
03	Shortage of Family labour
04	Hatred/Jealousy by neighbours
05	Expense of herding labour
06	Management: fence off range lands
07	Availability of winter fodder

08	Diseases
09	Winter grazing on arable land
10	Lack of knowledge about raising cattle
11	Summer grazing area
12	Cold temperatures
13	Overstocking
14	Drought
15	Lack of/ lazy bulls
99	N/ a; missing

Section I: Hypothetical Cattle Sale

ReasSell: If you were to sell a head of cattle in the immediate future, what would be the reason?

00 = can't think of a reason/ am trying to accumulate herd
01 = school fees
02 = build house
03 = buy fertiliser/ seed
04 = Pay medical fees/ death
05 = go looking for a job
06 = to fix/ repair car
07 = to buy maize/ food
08 = Have no cattle to sell/ Don't own any cattle
09 = to buy wedding presents
99 = missing; N /a

Typesale: Which type of animal would be sold?
1 = ox
2 = bull
3 = cow
9 = missing; N /a

AgeSell: How old would the selected animal be? 99 = missing; N /a

PriceSell: How much would you sell it for?
99 = missing; N /a
00 = don't know

Customer: To whom would you sell it?
1 = Anyone
2 = Butchery owner
3 = Neighbours/ friend

4 = Local Auction/ sale yard
9 = missing; N /a

CatOwner: Whose animals would you sell?

1 = mine/head
2 = other member of homestead
3 = *sisa*'d animal
4 = not sure;
9 = missing; N/ a

Criteria: What would you base the price on?

1 = by how it looks
2 = its weight
3 = age
4 = type/ sex
5 = amount of money needed
9 = missing; N/ a

Reaskill: If you were to slaughter an animal today what would be the reason?

0 = Can't think of a reason why/ still accumulating
1 = funeral/ cleansing ceremony
2 = Wedding celebrations
3 = Ancestral/ cultural ceremony/ to eat
4 = To sell meat
5 = Have no cattle to kill
9 = missing; N/ a

Typekill: Which cattle would be slaughtered?

1 = ox
2 = bull
3 = cow
4 = would buy/ exchange
5 = Any
9 = missing; n/ a

Agekill: What age would the animal be? N /a; missing = 99

Ownerkill: Whose animal would be slaughtered?

1 = mine/head
2 = other member of homestead

3 = *sisa'*d animal
4 = not sure;
5 = exchange
9 = missing; N /a

ReasChoic: What other criteria would you use to select the animal for slaughter?

1 = Reason for slaughter
2 = heath of animal
3 = Age
4 = Only available animal
9 = N /a; missing

ReasCows: Give 2 important reasons why you keep **cows**

01 = breeding
02 = milking
03 = draught power
04 = manure
05 = meat/ to eat
06 = respect/ prestige/ it's our culture
07 = money/ to sell
08 = pay bride price
10 = wealth accumulation/
11 = savings for old age
06 = respect/ prestige/ it's our culture
99 = missing data; N/A

ReasOxen: Give 2 important reasons why you keep oxen **See codes above**

ReaGoats: Give 2 important reasons why you keep goats **See codes above**

Idiom: What does the idiom, "cattle are to a Swazi person whatbody Grime is to human beings" mean to you?

0 = never heard of it; don't know
1 = Cattle are the best commodity to leave for children/ best inheritance
2 = cattle are a Swazi person's bank-best reliable savings
3 = Cattle are our insurance for family continuity through bride wealth
4 = to be considered a man, (to command respect) you have to have cattle
5 = Cattle are a part of our history; they are who we are, they are our life,
6 = Every Swazi aspires to own cattle for respect and sense of worth
7 = A homestead without cattle has no dignity
8 = To a Swazi, cattle fulfil their every need- meat, milk, draft, manure, savings, wife, children, respect

Section K: Prevalence of and Rules Governing the 'Sisa' of Cattle

DateSisI: When did the sisa cattle arrive (years ago)?

n /a; missing; 99

RelfSisI: How are you related to the owner?

****

ResdSisI: Where does the owner live?

Town (in Swaziland)	1
Other Rural Area	2
Outside Swaziland	3
Don't know	4
Missing N/ a	9

ReasSisI: What circumstances made him/ her to sisa his/her cattle with you?

S/he had no land/ herder	1
Bought cattle from me	2
To gain access to good range land	3
I asked him/her to sisa to me	4
Compassion towards me	5
Hiding them from relatives	6
They kept dying while in her care	7
He had too many	8
Missing; N/ a	9

FactSisI : What factors made it possible for you to accept *sisa* cattle?

Had no/few cattle of my own	1
Lots of grazing here	2
To get manure/ milk/ draught power	3
To start a herd of my own	4
I was able to help/ good relations	5
N /a; missing	9

OrigNum : How many cattle were originally *sisa*'d in?

N/ a / missing 99

PresNum: How many are there now? N/ a / missing 99

NumDie: How many died since they arrived? None 0

N/ a; missing 9

NumSold: How many have been sold? None 0
N/ a ; missing 9

WhySold: Why were these particular ones selected for sale?

Too old /sick	1
Kept for sale	3
Needed cash	4
Don't know	5
Missing; N/ a	9

ProbSisa: Have you experienced any problems with keeping *sisa'd* cattle?

Yes	1
No	2
Missing; N/ a	9

Calfborn: Have there been any calves born from the *sisa'*d cattle:

Yes	1
No	2

CalfOwn: To whom do the calves belong?

Owner	1
Keeper \mine	2
Missing data; N/a	9

NumVisit: How many times has the owner come to see his cattle in the past year?

Never	0
Once/ year	1
Any time	2
n /a; missing	9

AreaOut: To which area did you send your cattle?

High veld	1
Middle veld	2
Low veld	3
Lubombo	4
N/ a; missing	9

DateOut: When did you send them (years ago)?

N /a; missing 9

ReasSisO: Why did you sisa your cattle out?

S/he had no land 1

Bought cattle from that person	2
To gain access to good range land	3
They asked me to- use for draft	4
Had too many cattle	5
Problems getting herders	6
Ancestors ordered me to get rid of them	7
N /a; missing	9

RelatOut: How are you related to the person you *sisa'*d your cattle with?

****

ChoicInd: How did you select the individual to whom you gave your cattle?

No particular reason/ chance	0
Very Good with cattle	1
They asked for them/ Needed cattle	2
To gain access to fenced range land	3
Applied for space in govt. ranch	4
Had no herder	5
To get access to services to bull of a particular breed	6
n/a; missing	9

ChoiArea: How did you select the area you sisa'd your cattle?

No particular reason/ chance	0
To gain access to fenced range land	1
Good grass /rain	2
N /a; / missing	9

Orig#SisO: How many cattle did you originally sisa out?

N/ a; missing	99

Pres#Out: How many cattle are there now? N /a; missing 99

NumDied: How many have died since you *sisa'*d them in?

None	0
N /a; don't know/ missing	9

NumSold: How many cattle have you sold since you *sisa'd* them out?

None	0
N /a; missing	9

TypeSold: What type of animals were they? Oxen 1

Bull	2
Cow	3
Other	4
N /a; missing	9

Reasale: What were the reasons for selling each of the animals?

To pay school fees	1
To pay bills	2
To buy groceries	3
To buy agricultural inputs	4
N/ a; missing	9

CattleOut: What are the three most important reasons for giving someone cattle on a sisa arrangement?

Help with herding	1
For Milk and Manure	2
For Draught power	3
To establish/ maintain friendship	4
To help someone establish own herd	5
To gain access to good range land	6
To get access to services to bull of a particular breed	7
n /a; missing	9

CattleIn: What are the two most important reasons for accepting someone else's cattle on a sisa arrangement?

****See codes above****

GoatsOut: What are the two most important reasons for giving someone goats on a sisa arrangement? ****See codes above****

DutySisI: What are the duties of someone who has accepted sisa cattle?

Don't know	= 0
Report sickness/ loss/death of animals	= 1
Look after animals	= 2
2 and 1	= 3
N/a; missing	= 9

DutySisO: What are the duties of who has loaned his cattle to someone else?

Don't know	= 0
Supply vet Medicines	= 1

Visit regularly to discuss management = 2
Respond promptly to requests for medicines = 3
1 + 2 +3 = 4
N /a; missing = 9

Allowed: What can you do with cattle you hold on a sisa arrangement?

Don't know = 0
Milk them = 1
Span them- for draught power = 2
Use their manure = 3
1 + 2 +3 = 4
N /a; missing = 9

TabooAct: What are the things that you cannot do with cattle you hold on a sisa arrangement?

Don't know = 0
Kill them = 1
Sell them = 2
Use them to Pay Bride price = 3
Give away as gifts = 4
1 + 2 +3 + 4 = 5
N/ a; missing = 9

GrazeRit: Who has the right to graze his cattle on your community range?

Don't know 0
Only members of the community 1
Anyone 2
Only those who paid money for fencing the range 3
N/ a; missing 9

ConseqMe: What happens when a member of the community accepts cattle on a *sisa* arrangement from someone who is not a member of this community?

Nothing 0
Community member made to pay a fine 1
Community member banished from community 2
He has to report to dip committee the number of cattle brought in 3
He has to register cattle under his name 4
N /a; missing 9

ConseqCa: What happens to the cattle? Don't know/ Nothing 0
Chief confiscates them 1
If they are above 10, the excess is returned to owner 2
N /a; Missing 9

Predisposi: How do community members feel when a herd of cattle belonging to a non-member graze your community range land?

Don't know/ nothing 0
They feel badbecause foreign cattle bring diseases 1
They feel bad because foreign cattle finish the grass 2
They feel bad and chase cattle away 3
It has never happened 4
Report issue to chief's kraal 5
They don't care 6
N /a; Missing 9

CourtCas: Have there been any court cases in your community involving cattle held under the *sisa* arrangement?

Yes 1
No 2
Missing; 9

BannedCa: Do you know of any cattle held under *sisa* arrangement by a member of this community that were banned from grazing in your community's range?

Yes 1
No 2
Missing; don't know 99

Section L: Bride Wealth *(emalobolo)*

Brwealth: Did this homestead receive bride wealth in the last 12 months?

Yes 1
No 0

Briprice: Did this homestead pay bride price in the last 12 months?

Yes 1
No 0

RelatGrm: How is the groom /bride related to the head of this homestead?
0 = No Relative

1 = Bride
2 = Groom
3 = daughter
4 = son
5 = Brother
6 = Sister
7 = Niece
8 = Nephew
9 = N /a; Missing

CattleRv: How many cattle did the head of homestead receive?
N /a; Missing 9

CattlePy: How many cattle did the head of homestead part with?
N /a; Missing 9

CashRcv: How much was received in cash to make up the total number of cattle required? n/a; Missing 99

CashPay: How much was paid in cash to make up the total number of cattle required? Nothing/none 00
N /a; missing 99

LieuCash: How much cash would you charge in-lieu of one head of cattle?
N /a ; missing 99
Don't know 00

LieuGoat: How many goats would you accept in-lieu of one head of cattle?

Would not accept goats 0
Missing 9

Dynamics: In your opinion, has the way or mode of bride wealth exchange changed over the past ten years?
Yes 1
No 2
N /a; missing 9

MorePrev: Which mode is more prevalent now?
No exchange made 0
Money 1

		Cattle	2
		Combination of 1&	3
		Missing	9

LessPrev: Which is becoming less prevalent?

Money	1
Cattle	2
Combination of 1&2	3
N/A	9

Reaswhy:

Few cattle available- no land to graze cattle	1
Cattle too expensive	2
Young people do not have cattle/ no money	3
Few cattle available- too many diseases	4
Women prefer western marriage, which does not recognise *lobola*	5
Women not trustworthy anymore- not worth paying *lobola*	6
Civilisation/ Death of a culture	7
N /a; missing	9

Cattle Owned byWomen

Femtotal:	How many cattle do you own?	Missing; n/a	99
FemOther:	What other animals do you own?	None	0
		Goats	1
		Chickens	2
		Sheep	3
		missing; don't know	9
Hestory1:	How did you get your first head of cattle		
		Purchase	1
		Gift	2
		Inheritance	3
		Combination of above	4
		Bride wealth	5
		Missing; n/ a	9
FemSource:	From whom did you get it?	Mother	1
		Husband	3
		Son in law	4

Purchased it /Auction 5
Missing; n /a 9

ReasAcq1: Why did you get the head of cattle?

Saw it as an opportunity to invest 1
Liked cattle/always wished to have some 2
Given to me as gift 3
Custom- he died 4
Custom- he married my daughter 5
Missing; n /a 9

Hestory2: How did you get your second head of cattle?

Purchase 1
Gift 2
Inheritance 3
Offspring/ natural increase 4
Missing; n /a 9

FemSorc2: From whom did you get it?

*****See codes above*****

FemReas2: Why did you get the animal? ****See Codes Above****

DispProb: Have you ever disposed of any cattle since you became a cattle owner?

1 = Yes
2 = No
9 = missing;

DispMeth: How?

Sale = 1
Slaughter = 2
Gifts = 3
Sisa = 4
Paid bride price for child = 5
Missing = 9

TotlSold: How many have you sold? None 0
Missing; ; n/a 9

ReasSell: For each animal that you sold, give the main reason why did you have to sell it? To pay school fees 1
To pay bills 2

To buy groceries/food/ maize 3
To buy agricultural inputs 4
All of the above 5
Missing; ; n/a 9

Permissn: Did you have to seek any one's permission before you sold your cattle ?
Yes 1
No 2
Missing; ; n/a 9

SignficO: Whose permission did you have to seek?
Husband 1
Brother 2
Uncle 3
Family 4
Missing; n/a 9

FemChoic: If they had refused, what would you have done?
would not have sold 1
Sold it anyway 2
Sought alternative source of cash 3
n/a; missing 9

FeLobola: Have you paid lobola for your children using your cattle?
1 = Yes
2 = No
9 = N /a;

Schlfees: Have you paid school fees for your children using your cattle?
1 =Yes
2 = No
9 = N /a;

IndeDisp: How free are you to do what you want with the cattle that belong to you?
Not free at all = 1
Completely free = 2
Somewhat free = 3
Missing; n/a = 9

Problems: What problems, if any, do you have/have you had in deciding what to do with your cattle?
None = 0
Having to seek permission = 1
Accessing money for medicines = 2

Having to register them under the husband's name = 3

ProblemO: Do you experience any difficulties (similar or different to 17) disposing of your other stock? 1 = yes; 2 = no; 9 = n/ a

Section M: Non-Livestock Homestead Characteristics

1. Inventory of Homestead Buildings

NumHouse: How many housing units make up this homestead? None = 0

MetlRoof: How many have metal roofs None = 0

ThatRoof: How many have thatched roofs? None = 0

BrikWalls: How many have brick walls? None = 0

MudWalls: How many have mud walls? None = 0

CemFloors: How many have cement floors? None = 0

MudFloors: How many have dirt floors? None = 0

2. Inventory of Agricultural Implements

ToolPlow: How many ploughs does your homestead have? None = 0
Missing = 9

How many Cultivators does your homestead have?
How many Harrows does your homestead have?
How many Planters does your homestead have?
How many tractors does your homestead have?
How many truck/ vans does your homestead have?

3. Sources of Homestead Income

INCSORCE: From which of the following sources did members of your homestead derive their income in the last 12 months?

Remittances from homestead members working 0utside Swaziland 01
Remittances from homestead members working inside Swaziland 02

Sale of chickens, pigs, eggs	03
Sale of Beer	04
Sale of Crops	05
Sale of Milk	06
Gifts from relatives	07
Rental of farm equipment (tractor, oxen)	08
Profit from shop, taxi, hawker, healing(any other business)	09
Sale of Handicrafts	10
Sale of cattle and goats	11
Grinding maize for neighbours	13
Local revolving credit scheme	12
None; Missing data	99

4. Financial Aspects

BankAcc1: Do you (head) have a bank account? Yes 1
No 2
Missing 9

BankAcc2: Who else has a bank account in your homestead?

Owner Relation to head
0 = no one
1 = wife
2 = child
3 = sibling
9 = missing

Credit: Have you borrowed money from the bank or any other institution in the last 12 months?

Yes 1
No 2
Don't know; missing 9

Collater: Are there cattle in your kraal that have been pledged as collateral for a loan?

Yes 1
No 2
N/ a; missing; don't know 9

WelthInd: What are the usual indicators of a Homestead's wealth aside from owning cattle?

0 = nothing
1 = car
2 = big brick house
3 = lots of money
4 = private land/farm
5 = tractor
6 = business- shop; buses
7 = many wives/ children
8 = produce lots of / crops
9 = missing; /don't know

OwnWelth: Which of the above do you have? ***See Codes Above***

WelthSel: Would you sell some of your cattle in order to acquire any one of the wealth symbols?

Have no cattle	0
Yes	1
No	2
N /a; Missing	9

HerdHist: Tell me the history of your herd from the first animal to the present herd.

1 = inherited
2 = purchase
3 = Gift
4 = purchase and natural increase
5 = Gift and natural increase
6 = bride wealth + natural increase
7 = All cattle in this kraal are held under *sisa*
8 = inheritance and natural increase
9 = payment for (traditional) healing + natural increase

Appendix 2

Newspaper Clippings of Pertinent Stories

THE SWAZI OBSERVER

Back to the Observer front page

The Swazi Observer: The Paper that serves the Swazi Nation **DECEMBER 29, 1998**

The Swazi Observer Comment

MVA lauded for making our roads safe but...

We applaud the intervention of the Motor Vehicle Accident (MVA) Fund to save lives on our roads which have become death traps by funding the temporal employment of patrols.

Already there are indications that the E25 000 the MVA invested in this drive to keep livestock off our roads is paying dividends.

The spin-off of this to MVA could be a savings of hundreds of thousands of Emalangeni in terms of claims for repairs and medical expenses and compensation of victims of livestock related traffic accidents.

But much as the MVA foresight in saving lives and hundreds of thousands of Emalangeni is applauded, it is a short-term solution to the problem of the presence of livestock presence on the roads and the problems they cause.

In short the MVA has taken responsibility of looking after livestock it does not own or have responsibility for. The livestock is owned by people who, apparently, do not seem to appreciate the responsibilities that go with owning livestock. In the circumstance they have left such responsibilities to others.

We should not allow this to go on unchecked. Someone has to make livestock owners realise their responsibilities. And they should not be spared for reneging on these responsibilities.

Essentially the responsibility of keeping livestock off the roads is theirs and theirs only. Therefore, they must be forced to live up to this responsibility.

We have in the past made persistent calls for the tightening of the law so that livestock farmers who allow their animals to stray on the roads are harshly dealt with.

Perhaps what we need is a livestock patrol unit which should be funded by livestock farmers themselves. This can be done through impounding of stray livestock for which the owners should be heavily levied or auctioning of the beasts in the event their owners do not claim them.

Unfortunately our lawmakers do not seem interested either because they themselves would be affected or they simply do not appreciate the

problem of stray livestock on the roads. We hope the new legislature will take up this issue and address it once and for all.
Either people dispose their livestock or live up to their responsibilities by ensuring that they are properly looked after so that they do not stray on the roads.

BACK TO TOP

e.mail the Editor

National News

Bridegroom beaten up for paying lobola with goats not cattle

BY MFANUKHONA NKAMBULE.

EMANYEVENI - A bridegroom, from Kurmastad in South Africa, James Mashinini and his 12 maids were lucky to go back to their country alive after being beaten up here for paying dowry with goats instead of cattle.

The incident was reported by the governor, Moses Dlamini, and the father of the bride, Isaac Mngomezulu.

The groom intended to pay the price with 90 goats which were already loaded in a truck.

Mashinini tried in vain to persuade his in-laws to accept the goats which, he said, could still sell to get the cattle they wanted.

He is said to have argued that six goats represented a cow.

According to the father of the bride, the bridegroom and his maids were rounded up and thrashed by relatives and residents for contravening the Swazi Law and Custom.

The wind screen of the truck was pelted with

In an interview, Mngomezulu said the groom was not paying the lobola but he was mocking them, which is why they beat him up.

"How on earth can someone pay lobola with goats? They were trying to mock us.

"This is the second time we experience this nonsense in this area. What surprises us most is the fact that the bridegroom was accompanied by Maxwell Hleko who is a Swazi and he was also beaten up for paying lobola with goats," he explained. The governor, Mr Dlamini, said he had been told by the family affected that another one has come with goats to pay the lobola.

"I was told in the morning on Saturday that another lout has been here to pay lobola with goats," he said.

The bride herself is still stunned and she wondered how Mashinini could pay with goats. She felt belittled, she said.

"I am still not in a position to say anything now because this idiot has defamed my character and my parents are planning to hire the services of a

Residents will be fined a cow each for having dual citizenship

BY SABATHA DLAMINI.

KAGUCUKA - All residents of the area here who are holding dual citizenship will be fined a cow and handed to the police to be arrested.

This was said by Prince Ngcoke in a community meeting held at kaGucuka Royal Kraal over the weekend.

He said a lot of people are holding dual citizenship in the area following the South African government's move to grant all people who have worked in that country for over five years.

He stated that a lot of the area's residents, working in the mines of South Africa used that opportunity to apply for the South African citizenship but did not move from the area.

He strongly condemned that act and called upon the councillor of the area, Isaiah Khumalo to fine all those people a cow each and bring them before a court of law to be tried.

Cultivate

"These are the very same people who want large areas to cultivate yet they don't pay taxes.

They should be fined a cow, arrested and their fields should be taken away from them," he said.

He argued that there has never been a country which allows its people to have dual citizenship.

He further warned those who were planning to take citizenship of that country to desist from such plans, saying it will give them problems in the near future, in that when they happen to die in that country, they will not be buried in Swaziland.

He said that will mean that somebody is separated from his or her ancestors for ever, since according to him, they will be buried in a large deep pit like dogs.

He also wondered what steps the Swazi government took to ensure that the people who were accorded the South African citizenship, left the country for South Africa.

He said some people are not even working in that country but simply went there to benefit from the pension fund which he said it is given to any one over the age of 45 years.

He was supported by a large section of the residents.

They said the move will be a step forward in building a disciplined society, which will consurse of people who know when it is time to lucwala and other cultural activities.

King tells ministry to educate farmers on the Dipping Bill

BY TIMOTHY SIMELANE

MBABANE - His Majesty the King has told the Ministry of Agriculture and Co-operatives to further educate the farmers on the application of the Dipping Chemicals Bill.

The king is alleged to have said this after seeing the controversial bill, according to the minister, Dambuza Lukhele.

In an interview yesterday, Lukhele said his ministry is working hard to educate the farmers on the bill.

He said that MPs must shoulder the responsibility to assist his ministry in educating the public on dipping chemicals.

The minister felt that farmers reject the Dipping Chemicals bill because they are not educated on it.

He said he would deploy teams of experts to further educate the public on the application of the bill.

"I would be happy if members of parliament would join in the education process because they know better as they are the people who passed it.

"The reason for waiting the 12 months period was for the regulations to be well formulated, passed by parliament and then applied as an Act," he said.

The Bill was fiercely rejected by most of the country's farmers who felt dipping chemicals were expensive.

News

Dambuza tables livestock development policy in Parly

By Velaphi Hlatshwayo

THE Minister for Agriculture and Cooperative, Chief Dambuza Lukhele yesterday tabled the Livestock Development Policy for Swaziland in parliament.

He told the House of Assembly that as minister responsible for livestock development and the livestock industry he felt that such a document would be useful to the members of the House and enable them to appreciate their short and long term goals.

He said livestock development policy aims at achieving self-sufficiency and self-reliance in the livestock sector in the immediate term and a sustainable livestock industry for Swaziland in the long term.

THE Minister for Agriculture and Cooperative Chief Dambuza Lukhele.

He said the guiding principles of livestock development policy shall be;

* ecological sustainability, economic viability and an understanding of the socio-economic implications and;

* generation and promotion of the issue of tested and reliable information through research to support and advance livestock development.

"Paramount in this policy initiative is the commercialisation of livestock development, the application of intensive and cost effective measures in livestock production and health including small ruminants and the improvement of range management practices in order to achieve increased and sustainable livestock off-take levels," he said.

He said the strategies through which these measures would be achieved are identified in this document.

"The formation of community livestock group scheme inclusive of women and youth will serve as the main vehicle for livestock development, while the integration of all participants as partners within the livestock industry chain viz, the producers, traders, processors and the government will form the backbone through which the sustainability of the industry would be ensured," he said.

17 September 1998

'THE NATION STOPPED KING FROM APPROVING DIPPING BILL'

The DPM Arthur Khoza yesterday told a political workshop at the University of Swaziland that the King was stopped from approving the Dipping Chemicals Bill of 1996 by the people's parliament at Ludzidzini Royal Residence. The DPM said the king wanted to approve the Bill, but was discouraged by speakers at the cattle byre who felt it was un-Swazi to tax cattle as all cattle belonged to the king. The DPM said that the nation told the king that in accordance with Swazi culture, nobody owns a cow.

CAMPAIGNING IS JUST ANTI-TINKHUNDLA - MAJAH'ENKHABA

The Minister of Enterprise and Employment, Majah'enkhaba Dlamini, yesterday criticised Chief Electoral Officer Robert Thwala, for allowing aspiring parliamentarians to campaign for votes, because campaigning is anti-tinkhundla. The minister said campaigning was designed to suit the multi-party system, adding that even those who are currently campaigning will not keep the promises they are making to their constituencies. He said he had heard aspiring parliamentarians promising to pass to laws aimed at improving the welfare of the nation, particularly the old.

Known cattle rustler is shot dead by police

BY NTANDO MAKHUBU

MHLAHANE- Police shot and killed a cattle rustler from Mcengeni area near Sidvokodvo on Monday afternoon after he tried to escape during an investigation.

This was the second case of a criminal being shot dead by police this week.

Another man, de-

wanted armed-robber and car thief, was shot dead at the Happy Valley on Saturday night after the police had followed him on a tip off.

Police spokesman Khisimusi Ndlovu said the man they shot on Monday was a well known cattle rustler who was also involved in stealing the King's cattle. Some of the cattle he stole were in a herd which were ear-

rings for easy indentification, and after being arrested by the Manzini police on Monday, he admitted to his crimes.

He then said he would show them an area where he had buried the earrings from the cattle. He took the police to a forest in Mcengeni area where he proceeded to dig the ground. While doing this he tried to escape, and police warned him to stop.

Ndlovu said he ignored warning shots, after which he was shot and he died on the spot

Police have explained that they never shoot criminals with the intention of killing them but they shoot when they are under pressure.

They also maintained that they try to aim at shooting a crippling shot but it is not always possible

191

Stock theft rate is alarming, say cops

BY NTANDO MAKHUBU.

MHLAHANE - Police have noted with great concern the increasing incidents of stock theft in the country.

In a statement public relations officer Khisimusi Ndlovu noted that the rate of stock theft is very high and is continuing to increase at an alarming rate.

Last week more than 40 cattle were reported stolen in the country, but there are a lot more which have not been reported. The police have also been able to arrest some cattle rustlers, but because they operate in large numbers the rate will not go down significantly.

Although some rustlers steal the cattle from some people's kraals at night some do not wait but take them from the grazing area during the day.

In one case cattle worth more than E5 000 were taken at one go while they were grazing in broad daylight last week.

Emphasizing that grazing lands are no longer safe, Ndlovu said: "The rate at which cattle are taken has to be minimized, and we would like to advise the stock farmers to take precautions".

He advised that they should collect their stock from the grazing land immediately after sunset and they should make sure that while they are grazing someone is watching over them.

"We have also noted that some of the indigenous Swazis collect their cattle only when they are to be taken to the dipping tank," Ndlovu said, adding that it is only then that they notice that some are missing. He said it is then very difficult to investigate the thefts in these cases, so it is better to report a case promptly so that they get the information and evidence fresh.

Appendix 3:

Picture of the Minister of Agriculture being Chased by an angry Mob of Cattle Owners

Appendix 3: MOAC Chased by Farmers

Dambuza and the farmers
"We won't pay for any dipping chemicals"
"This minister is mad"
"Go back to parliament"
"Bayahlanya labantfu! Vele babheme ibenzine"

Source: The Swazi Observer 26 November, 1994

Appendix 4

Press Statement on the launching of the Market Focused Livestock Education Program

LAUNCHING OF

"MARKET FOCUSED LIVESTOCK PRODUCTION EDUCATION PROGRAM"

ON SWAZI TV

The long term goal of the Government of the Kingdom of Swaziland in the Livestock Subsector is to " .... achieve a sustainable livestock industry which is capable of meeting the needs of its local and International markets, at the same time ensuring an equitable distribution of wealth to the producer, particularly the rural smallholder farmer through his / her production, supply and participation in the processing industries. In the long-term to contribute effectively in the growth of the national economy ..."

One of the immediate challenges of the Department of Veterinary Services therefore is to evolve a market oriented livestock subsector from the present subsistence orientation. To achieve this, various policy issues were addressed and suitable policy objectives formulated. One of these was to establish a Livestock Marketing Unit within the Department of Veterinary Services whose objective is to promote and co-ordinate livestock marketing, collect, collate, analyse and disseminate livestock marketing information to the industry, the general public, the government and the department so as to provide constant guidance on markets performance to ensure timely strategy reviews as well as planning and target setting for immediate and long-term production requirements.

I am happy to launch this release as one of the first products of this important policy objective, the MARKET FOCUSED LIVESTOCK PRODUCTION EDUCATION PROGRAM. This PROGRAM has a major limitation in it's bid to fully meet it's goal this is due to the extremely limited capacity of the department to timeously furnish the programe with required resources.

My profound gratitude is extended to the members of livestock industry who contributed towards the prizes which will be offered to participants who contributed to the successful production of this programme.

Inn conclusion let me state that the success of this programe rests solely on a mutual support of the general public. In the light of this understanding may I invite the public to:

1) Make use of the information that shall be availed to them through this program aimed at improving their standards of livestock production.

2) Raise the quality of stock and thus fetch good stock prices from local and international markets.

Dr ROBERT S THWALA

DIRECTOR OF VETERINARY SERVICES

19 May, 1997.

Appendix 5

Swaziland Vital Statistics

STATISTICS

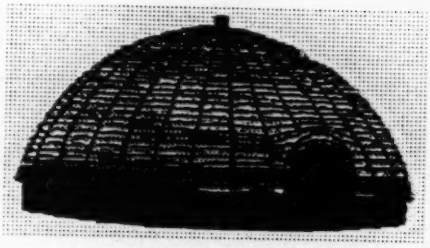
Swaziland (USDm, unless otherwise stated)						
	1991	1992	1993	1994	1995	1996
Population (millions)	0.8	0.8	0.9	0.9	0.9	0.9
Nominal GDP at market prices	870.8	969.0	982.3	1,045.9	1,169.9	1,091.1
Real GDP growth rate, %	2.6	1.2	3.8	3.7	2.8	3.2
GDP per capita, USD	1,094.6	1,177.8	1,154.8	1,189.8	1,288.3	1,163.5
Consumption as % of GDP	87.0	84.0	87.3	85.7	87.0	94.1
Gross domestic savings as % of GDP	33.0	33.3	33.9	30.0	25.9	25.9
Gross investment as % of GDP	20.8	26.2	26.8	25.2	26.7	23.3
Inflation rate, %	11.0	8.2	11.2	13.9	13.3	10.9
Merchandise exports as % of GDP	68.3	65.9	69.8	74.9	81.5	78.0
Merchandise imports as % of GDP	72.7	79.2	78.8	78.4	83.4	78.3
Capital account of balance of payments	19.6	35.0	12.3	-60.6	-14.2	5.7
Foreign direct investment as % of GDP	7.3	4.9	6.1	-0.2	2.7	2.7
Foreign portfolio investment as % of GDP	-0.1	-0.0[1)]	-0.1	-0.4	-0.2	0.0
Overall balance on balance of payments	13.8	87.8	-63.8	-12.5	29.8	14.8
Average exchange rate: SZL to USD	2.7563	2.8497	3.2636	3.5490	3.6270	4.4625
Foreign exchange reserves expressed in terms of months of import cover	3.9	4.9	3.9	3.0	3.2	4.6
Total external debt as % of GDP	23.9	21.6	22.5	19.2	21.6	23.6
Total external debt service as % of exports	3.1	2.5	2.5	2.7	2.3	2.5
Budget deficit as % of GDP, fiscal year	4.7	-1.5	-6.1	-6.2	-2.1	-6.9
Central bank discount rate (end of year), %	13.0	12.0	11.0	12.0	15.0	16.8
Prime lending rate (average for year), %	16.1	15.8	14.4	14.3	18.0	18.7
Growth rate of M2 money supply, %	13.5	19.7	13.8	10.9	3.9	16.3
Domestic credit to government	-152.0	-206.8	-152.5	-112.3	-165.3	-180.2
Domestic credit to private sector	237.6	215.1	228.2	246.6	242.2	209.8
Source: Central Bank of Swaziland Note 1) -0.02 per cent.						

ranking is based on life expectancy at birth, adult literacy, combined primary, secondary and tertiary education and adjusted real GDP per capita.

Appendix 6: Swazi Huts

HUTS

Huts are similar in shape to those of the Zulu but differ considerably in construction, the thatch being tied down with grass ropes, plaited by the women. All the cutting and preparation of grass for the huts are done by the women, who also harden the earth floor in typical Bantu manner, polishing it with smooth stones and - smearing with cowdung to keep it fresh and clean, Men make the framework and during this operation, traditionally, the female owner of the hut pretends to run away. This rite must be observed or it is believed she will later desert her husband forever.

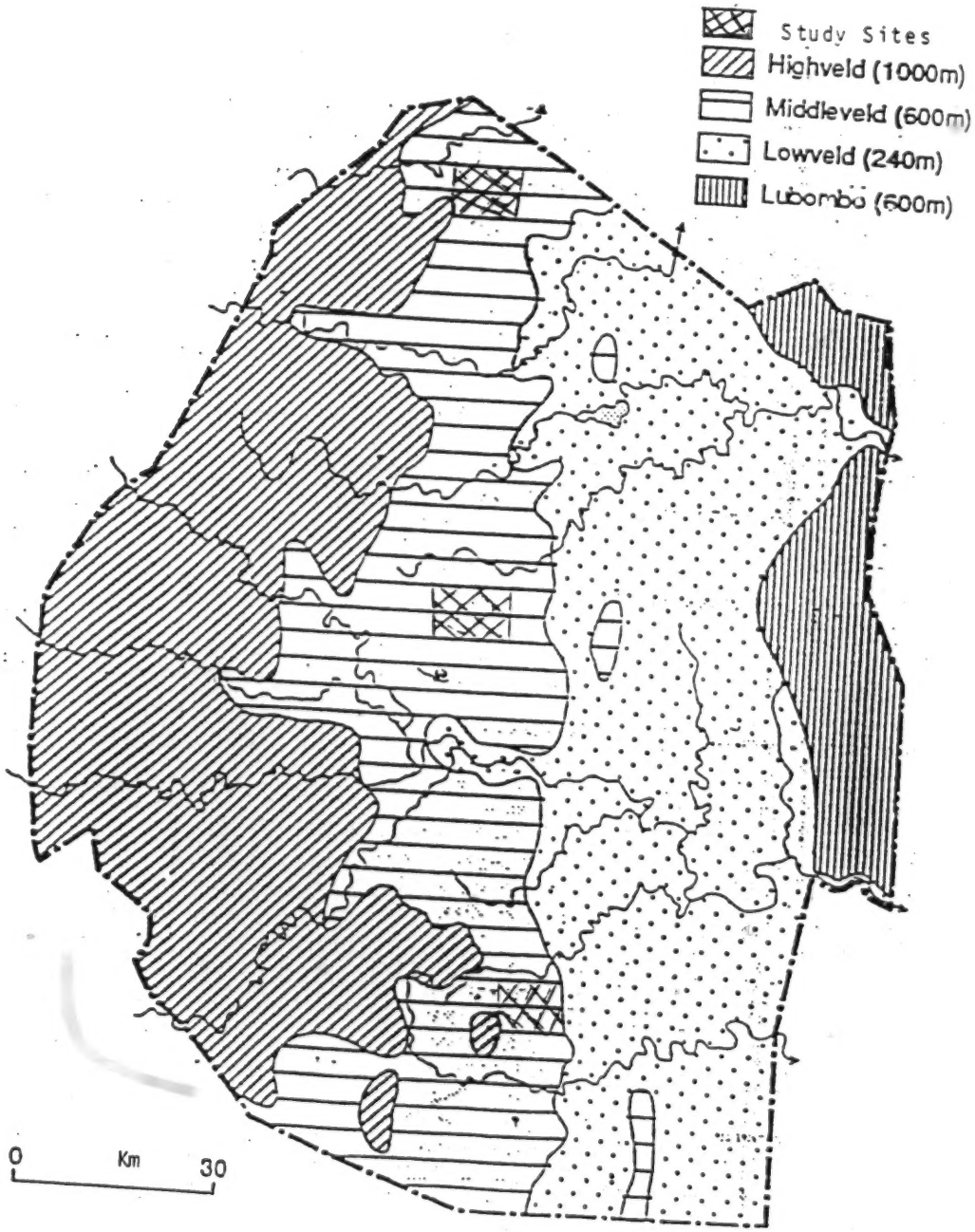


Source: http://www.africasouth.co.za/swaziland/people/huts.htm

List of Figures

Figure 1

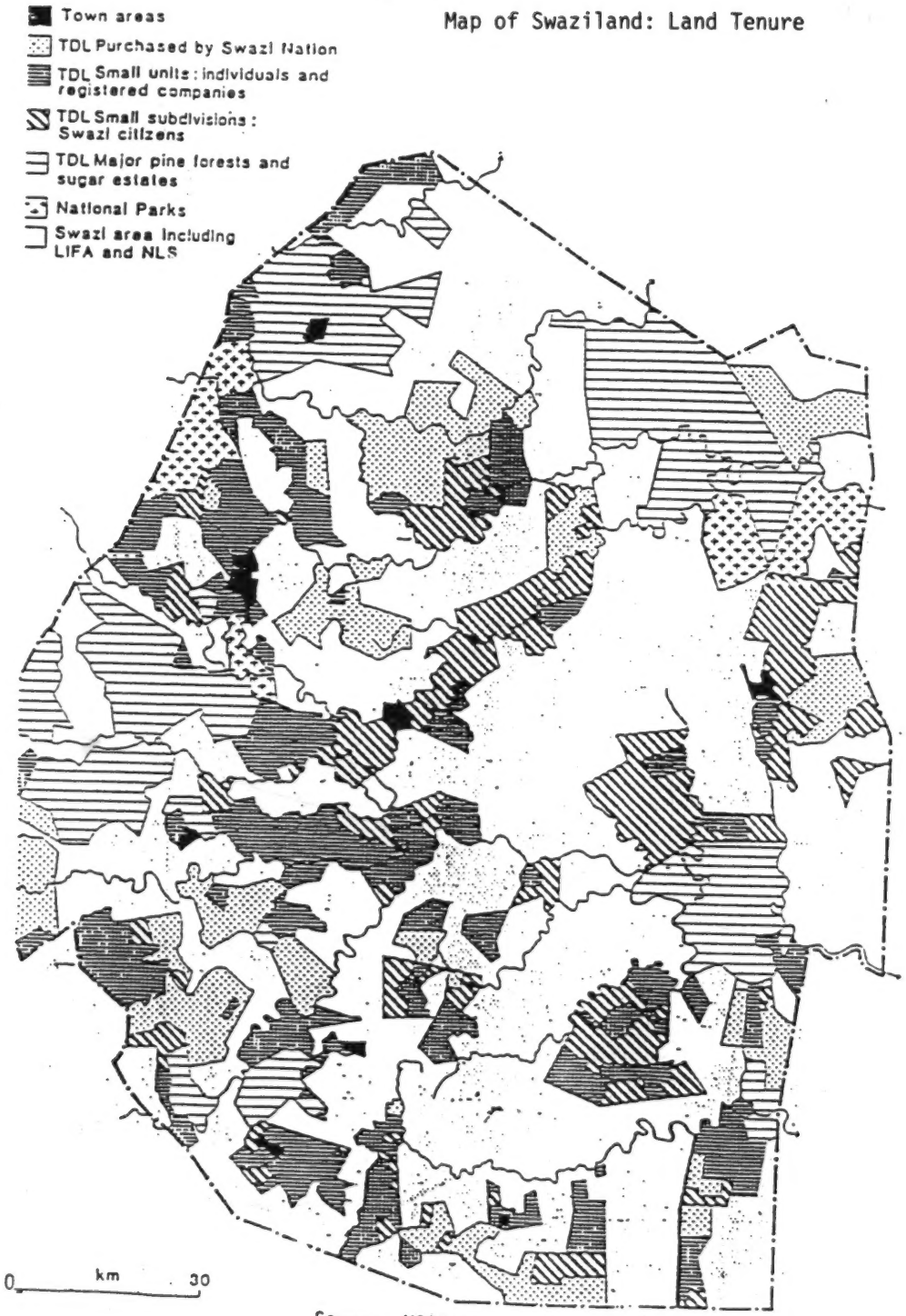
Map of Swaziland :Agro-Ecological Zones



200 Source: MOAC,1995

Figure 2

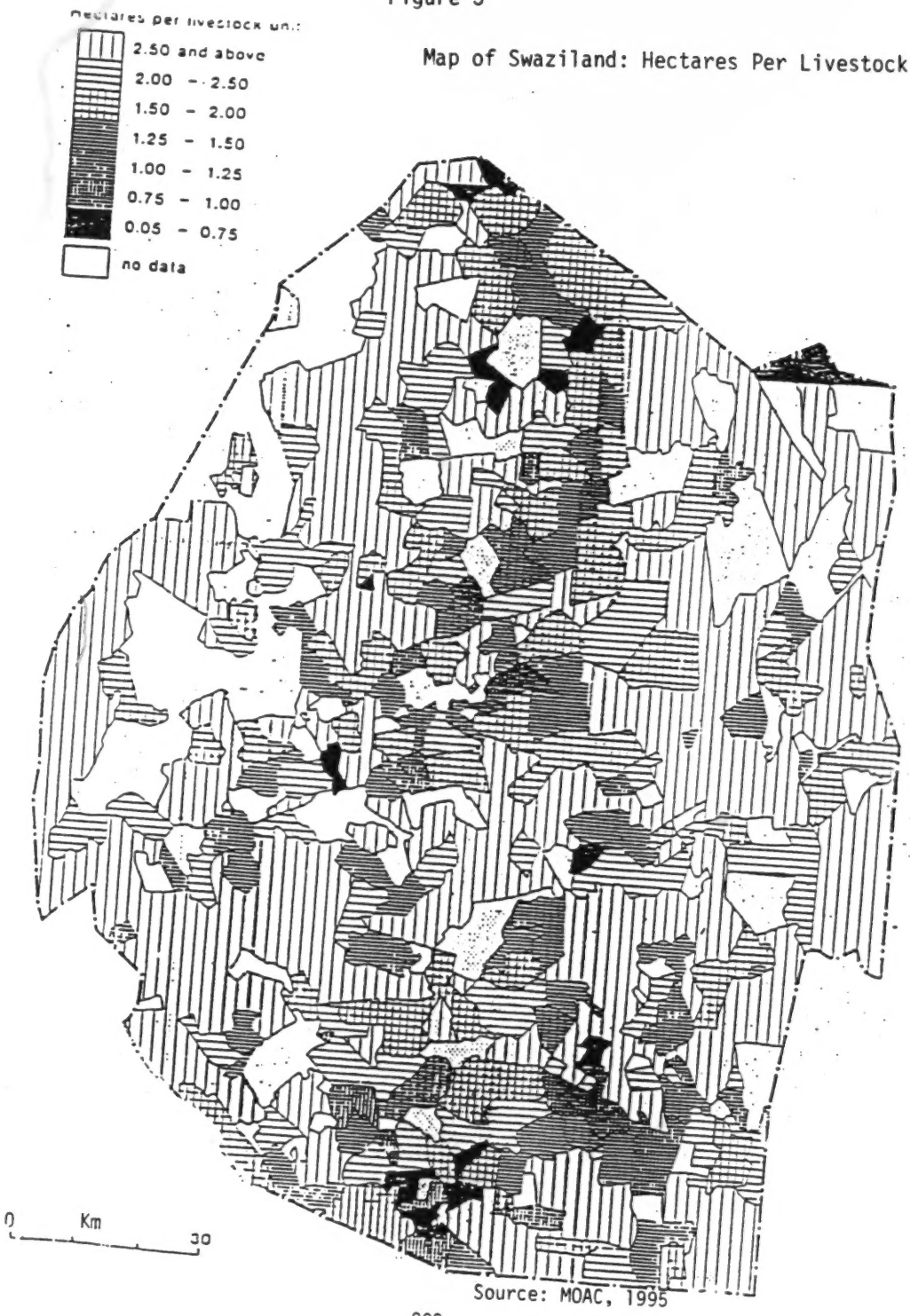
Map of Swaziland: Land Tenure



Source: MOAC, 1995

Figure 3

Map of Swaziland: Hectares Per Livestock Unit



Source: MOAC, 1995

Table 3.1 SNL Cattle Population by Agro-ecological Zone

Year	Cattle Numbers ('000)			
	Highveld	Middeveld	Lowveld	Lumbombo
1982	86	15	15	26
1992	114	176	265	34
1993	95	158	149	20

Source: derived Annual Livestock Census data